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# THE TREATMENT OF BURNS BY PARAFFIN.

BY LIEUT.-COLONEL A. J. HULL, F.R.C.S.,
ROYAL ARMY MEDICAL CORPS.

DR. BARTHE DE SANDFORT introduced a treatment for burns by means of a preparation of paraffin which he called ambrine. The treatment consisted in washing the burns with sterile water, drying, and painting or spraying a layer of ambrine over the surface. The surface was then covered with a thin layer of wool, and a second coat of paraffin applied. The paraffin solidifies almost instantaneously, and a thicker layer of wool and a bandage are then applied. The paraffin preparation, ambrine, is a secret one, and the property of the Ambrine Company, Paris.

Observations of Dr. Barthe de Sandfort's treatment, and experiments with ambrine, carried out in a military hospital, gave one the impression that the treatment was valuable. Burns healed with rapidity; constitutional symptoms rapidly abated; pain was reduced to a minimum; scarring appeared to be obviated, or at any rate was not apparent. The need for grafting large burns appeared to be avoided. The burns healed so rapidly with healthy granulations that there appeared to be nothing to be gained by grafting. The patients were singularly free from sepsis. The conclusion arrived at from experimenting with the ambrine treatment was that mild burns healed with singular rapidity, and severe cases recovered which would have been unlikely to recover by the ordinary methods of treatment. Observers who had had large experience of burns treated by picric acid, ointments, and other methods in ordinary use, were unanimously of opinion that the paraffin method was superior to the older methods. The experience of those who had witnessed the results of burns after liquid fire attacks was that the ambrine treatment would save many lives, and accelerate the recovery of all burns.

A preparation resembling ambrine may be produced by impregnating hard paraffin with a small quantity of tar. The substance is not in very good solution, and falls to the bottom of the paraffin when the wax is heated. The excellent results obtained would therefore appear to be due to mechanical causes. The protection of the burn from the air, the protection of the newly-formed granulations from damage, the splint-like effect of the wax in holding the damaged tissue immobile and at rest, appear to be the attributes which produce the effect. The heat of the applications and the conservations of heat to the surface may encourage the lymph flow, determine the supply of blood to the new capillaries, and favourably affect healing. The relief from pain and rapidity of healing is due to the fact that the burn is held at rest in a plaster-like cast of paraffin, and a suitable nidus in which the epithelium will proliferate is provided.

The absence of scarring depends upon the fact that skin can be reproduced in two ways. First, by direct proliferation of the epithelium in the depth of the wound. This method of healing is only possible in wounds of the first and second degrees, which form the vast majority of all cases of burns coming under treatment. Secondly, by the extension of the epithelium from the edge of the wound in cases of burns of the third and deeper degrees. These burns are comparatively rare, and are the only cases suitable for grafting. The effect of the paraffin in the first class is to protect and stimulate the growth of epithelium, islets of which can be seen growing over the base of the burn. In the second class the epithelium spreading from the edge is protected and stimulated.

The first point to be determined was whether equally good results could not be obtained with commercial paraffin, section wax, or similar pure hard paraffin. The ambrine preparation has peculiar and valuable mechanical properties. It has a lower melting point than ordinary section wax, is much more plastic when cooling and has not the tendency to crack which ordinary hard paraffin has. It also adheres well to the skin and is not liable to slip after a dressing is applied.

Hard paraffin is not a suitable application in its raw state; it lacks the mechanical properties of ambrine; there is an absence of the flexibility and adhesiveness which ambrine possesses. I found that if hard paraffin of suitable melting point be subjected to a temperature of 130° C. by means of superheated steam, the melting point was reduced about 2° C., and the hard paraffin now possessed the mechanical properties of ambrine. The therapeutic value of ambrine appears to be entirely mechanical, and I suggest that the processes of impregnation with tar or other substances are associated with the application of superheated steam, and that it is this superheated steam that is the essential process in its manufacture. The clinical results of the application of hard paraffin—treated with superheated steam—to burns appear to me to be indistinguishable from those of ambrine

Better results are obtained by the addition of certain antiseptic and stimulating substances. The wounds become clean more rapidly, pain is decreased, and the offensive smell associated with the ambrine dressings is avoided, and the burns heal more quickly. It was found necessary to change the treatment of sluggishly-healing burns treated by ambrine to a paraffin containing an antiseptic. The change was always beneficial. The argument that an antiseptic will destroy the saprophytic action of bacteria and will retard the treatment has not been borne out by clinical experience.

It is unnecessary to describe in detail the various experimental preparations. Laboratory experiments were made with a view to impregnating paraffin with various antiseptic substances—resin, essential oils, and tars. Experiments were made in order to produce a paraffin possessing the requisite melting point, plasticity, and adhesiveness. Cases were treated in the burn wards with various experimental preparations. Tar preparations were at first used; paraffin impregnated with oil of eucalyptus proved more efficacious. In order to obtain a painless treatment experiments were made with paraffin preparations containing analgesic substances. Potassium sulphate was used in one successful preparation (No. 4 paraffin), but was discarded as unnecessary in later preparations. After progressively improved results, a paraffin was finally arrived at having the mechanical properties of ambrine and containing a small amount of antiseptic. This is now in routine use known as No. 7 paraffin.

The results obtained by the use of No. 7 paraffin have surpassed the results obtained by ambrine or any other tried preparation. Severe burns of the third degree, accompanied by sloughing, and in a very septic condition, have cleaned and taken on healthy repair under this treatment, after a trial of the ambrine treatment. Severe burns of both palmar and dorsal surfaces of the hands, extending to the tendon sheaths, have healed in three weeks without contracting cicatrices. Extensive burns of the flexor surfaces of the limbs, the regions most likely to be altered by contracting cicatrices, have healed without apparent scarring. Burns of the face heal with a new healthy skin without scarring.

Severe burns due to cordite, petrol, and liquid fire have been healed with this preparation; there have been no untoward results.

Patients who have been admitted with septic burns of extensive areas have rapidly recovered from constitutional symptoms, the temperature usually becoming normal in a few days.

The treatment is practically painless, and patients rarely complain of pain after the first application. It has never been found in the least necessary to give an anaesthetic for the first or subsequent dressings. The rapidity of healing, the absence of sepsis or pain, the healthy new skin resulting, without contractile cicatrices or deformity, have been really remarkable. Burns become clean more rapidly than under ambrine treatment. Sloughs of deep tissues, in some cases down to bone, readily separate, and the burns become clean.

### *Method of Treatment.*

The paraffin treatment is begun at the first dressing; very exceptionally, in very septic burns, the paraffin is replaced by hot boric fomentations for two days after two days of paraffin treatment.

The burn is washed with sterile water and dried. The drying is accomplished by placing a dry piece of gauze over the burn. An electric drying apparatus, such as is used by a hairdresser for drying hair, if available, is a convenient method of drying the burn.

The burn is next covered with a layer of paraffin at a temperature of 50° C. The No. 7 paraffin has a melting point of 48° C. The temperature may be estimated by waiting until the wax shows a solidifying film upon the surface. A broad camel-hair brush, sterilized in wax, has been found to be a rapid and painless method of applying the paraffin. A spray may be used, but sprays readily get out of order, are troublesome to use, and the dressing takes longer. In theory a spray should be used in order to prevent any damage to the epithelium. In practice we have found a brush, skilfully used, sufficiently satisfactory. Sprays are indicated in very painful cases. A metal spray of rather large bore should be employed. The spray must be immersed in hot water during use.

A thin layer of cotton-wool, cut the same size as the area of the burn is placed over the wound after the first layer of paraffin has been applied. This layer of wool is covered with a second layer of paraffin. The wool is cut in thin sheets and pressed between layers of paper in order to obtain thin layers of wool. The dressing is completed by applying wool and bandage. The burns are usually dressed daily. In the later stages, when the burn is clean and only a small amount of pus is formed, the dressing is changed every forty-eight hours.

Blisters are not interfered with in any way at the first dressing, the paraffin is applied after washing the burn. At the second dressing the dead layers of skin are cut away. Sloughs usually separate after a few dressings. The separation of sloughs is accelerated by applying a layer of jaconet over the wool and paraffin beneath the wool and bandage dressing.

*Formula for No. 7 Paraffin.*

| | |
|---|---|
| Resorcin ... ... ... ... | 1 per cent. |
| Eucalyptus oil ... ... ... | 2 ,, |
| Olive oil ... ... ... ... | 5 ,, |
| Paraffin molle ... ... ... | 25 ,, |
| Paraffin durum ... ... ... | 67 ,, |

Melt the paraffin durum, and add paraffin molle and olive oil. Dissolve the resorcin in absolute alcohol (soluble 2 in 1), add the alcoholic resorcin, and lastly add the eucalyptus oil when the wax has cooled to about 55° C.

A smaller amount of resorcin may be used. The whole of the resorcin does not remain in suspension, and we have used a paraffin containing 0.25 per cent. resorcin with good results.

Difficulty having been experienced in obtaining resorcin in large quantity, beta naphthol, which has the additional advantage of being a cheaper antiseptic, has been substituted for resorcin in more recent preparations, as follows:

| | |
|---|---|
| Beta naphthol ... ... ... | 0.25 per cent. |
| Eucalyptus ... ... ... | 2.0 ,, |
| Olive oil ... ... ... ... | 5.0 ,, |
| Paraffin molle ... ... ... | 25.0 ,, |
| Paraffin durum ... ... ... | 67.75 ,, |

We have employed No. 7 paraffin in certain stages of the treatment of trench feet. The mode of application of paraffin to the ulceration following frost-bite is in every respect similar to the application of paraffin in the treatment of burns, and the results have been equally satisfactory.

# Lectures
ON
# THE EARLY DIAGNOSIS AND TREATMENT OF SYPHILIS.

By JAMES H. SEQUEIRA, M.D., F.R.C.P.Lond., F.R.C.S.Eng.,
PHYSICIAN TO THE SKIN DEPARTMENT AND LECTURER ON DERMATOLOGY, LONDON HOSPITAL; HONORARY CONSULTANT IN DISEASES OF THE SKIN TO THE MILITARY HOSPITALS IN LONDON.

*(Continued from p. 3.)*

[ABSTRACT.]

ALTHOUGH it is not to be expected that many practitioners will be able to carry out personally the rather complicated technique of the "Wassermann" reaction, it is within the power of all to take the necessary specimen of blood, which can be forwarded to a laboratory. As a general rule it will be found easier to remove the blood by a hypodermic syringe. A band should be placed round the upper arm, and the bend of the elbow having been cleansed by ether or painted with iodine, the hypodermic needle should be passed longitudinally into the most prominent vein in front of the elbow, and at least two cubic centimetres of blood withdrawn. In some laboratories five cubic centimetres are demanded, and no doubt, when the arrangements are complete, the necessary capsules sent out from the laboratories will be accompanied by instructions as to the quantity required. Another method is to wind a rubber tube round the patient's thumb, making a puncture with a sterilized needle and drawing off the blood into a capsule of the type devised by Sir Almroth Wright. It is important to see that the ends of the capsule are carefully sealed by heat before posting to the laboratory.

### THE EXAMINATION OF CONTACTS.

It is impossible to investigate contacts in many instances, but valuable work may be done in this direction. It is my practice, whenever possible, in the case of a married man presenting himself for treatment, to see the wife and to examine her and have a blood examination made. Likewise, if a married woman comes to the clinic and is found to be suffering from syphilis, every endeavour is made to induce the husband to come up for examination. Where there are children I have them brought up and they are examined. A boy, aged 6, was shown suffering from acquired syphilis. His mother was attending for secondary syphilis. The fact of the child being infected was discovered at once on his being brought for examination. In one family the following members were affected: The mother suffered from secondary syphilis acquired from her husband, her infant had congenital lues, while two other children in the house, one of them the mother's young sister, aged 12, were suffering from primary lesions due to kissing. In another family four members were infected.

### TREATMENT OF WOMEN WHO HAVE HAD REPEATED MISCARRIAGES.

Another part of the work to which I wish to draw your attention, and which, in my opinion, is an important feature of the present movement, is the treatment of women who have had repeated miscarriages. We are working in collaboration with the Obstetric Department in this matter. I am happy to say that in a number of cases women who have had several premature births have been referred to us, and on the "Wassermann" reaction being found positive, have been treated by intravenous injection of one or other of the arsenical compounds, and by mercury, with the result that the subsequent pregnancies have gone to full term and the children born have been quite healthy. I take it to be the duty of every medical practitioner who knows of such cases to have a blood examination made and to put the patient under treatment should the Wassermann reaction be found positive.

### CONGENITAL SYPHILIS.

At the outset I desire to enter a protest against the exaggerated statements which have been made as to the large mortality of children from congenital syphilis. Syphilitic infection is responsible for the deaths of a very large number of fetuses *in utero*, but I deny that it is the commonest cause of infantile mortality. Many mistakes are made in diagnosis, and I particularly wish to call attention to two or three points in this connexion. Very rarely a child is born with an extensive bleb or bullous eruption of syphilitic origin. I have seen instances in which the whole, or nearly the whole, of the epidermis has been shed in such a case. Occasionally a blister or bullous eruption develops on the palms and soles four or five days after birth. Blisters may develop elsewhere, but the palms and soles are always affected. Such an eruption is syphilitic and the infant rarely survives. A much commoner bullous eruption develops about the eighth or ninth day after birth, usually in association with a septic umbilicus. The blebs most commonly develop on the trunk, and they may be of very wide distribution. Sometimes such cases occur in epidemics, and in some epidemics the mortality is 30 per cent. This affection, known as *pemphigus neonatorum*, is a bullous impetigo, and is of coccal origin. It is not syphilitic.

The common congenital syphilitic eruption appears about a month after birth; the child is described as being quite healthy when born, and it may remain so until the third or fourth week, when an eruption very similar to

that seen in the secondary or generalized stage of the acquired disease appears. This eruption may be widely spread, it affects the face, palms and soles, napkin region, and other parts. It is often accompanied by "snuffles," and there may be mucous patches about the mouth. The spleen is often enlarged. Such cases have a characteristic appearance, the child soon begins to waste, the face becomes shrivelled, and, if untreated, a fatal result may occur. The majority of cases of this type, treated adequately by mercury, do well. In this stage mistakes in diagnosis are usually in the direction of classing other conditions, especially eruptions in the napkin area, as syphilis.

I must digress for a moment to say a few words about these *napkin area eruptions*, for there is a very prevalent idea that affections of this region are of syphilitic origin. The commonest napkin area eruption is a bright, shiny, red inflammation affecting the convex surfaces. It corresponds almost exactly with the area irritated by a soiled napkin—thus, the lower part of the back, the buttocks, the calves, and sometimes the heels are involved. There is good reason to believe that a coccal infection is a factor. This eruption is often diagnosed as syphilis. There are no "snuffles," no eruption elsewhere, and no enlargement of the spleen. In another type the affection is in the flexures of the thighs, groins, etc. This condition is *intertrigo*, and is often met with in the children of careless mothers. There are no general symptoms, and the condition has nothing to do with syphilis. In some instances we meet with a *seborrhoic dermatitis* in young infants, the scalp is scaly, the eruption may be more widely spread, and there are often seborrhoic conditions in one or other parent. There are none of the general signs of congenital syphilis.

Lastly, I must direct your attention to some rather rare but important manifestations of congenital syphilis in children from about 10 to 14 years of age. The eruption usually affects the nose and mouth, but may occur elsewhere. It is rapidly destructive, bone as well as cartilage undergoing necrosis, and causes hideous deformity sometimes in a few weeks. Occasionally the extremities may be affected. These cases are almost invariably believed to be lupus, and in my experience in the Finsen Light Department of this hospital I have had a number of them under my charge.[1] The special points are the rapidity of the destructive process, especially in osseous tissue. Lupus takes years to do the damage which this spirochaetal affection may produce in months. Lupus, also, does not destroy bone. In some of these cases the features known as the syndrome of Hutchinson, Hutchinson's teeth and interstitial keratitis and deafness, are present. In every one of these instances a positive "Wassermann" reaction was found. A patient with Hutchinson's teeth, interstitial keratitis and necrosis of the tibia was shown, also numerous photographs.

If it is impossible, owing to the tender age of the infant, to make a blood examination the blood of the mother should be tested.

## TREATMENT.

The present-day treatment of syphilis is by certain combinations of arsenic supplemented by mercury. Let us for the moment consider the evidence which is in favour of this as opposed to the old mercurial treatment.

The best evidence is that which has been afforded us by Gibbard and Harrison in their valuable work in the military hospitals.[2] It is impossible in civilian practice to carry out the continuity of observation which these officers have been able to obtain. I will not quote their figures at length, but I must mention that of 378 cases treated by mercury alone there were clinical relapses during the first year in 83 per cent., while of 152 cases treated by salvarsan and mercury the clinical relapses were only 3,9 per cent. This difference is so striking that it does not need comment. Gibbard and Harrison also showed by statistics the importance of early treatment, for in 70 primary and 130 secondary cases treated by modern methods the proportion of relapses, including both clinical and those only recognized by the blood test, was 11.3 when the treatment was begun in the primary stage, while it reached 33.7 when the treatment was postponed until the secondary stage.

A third point is the fact that the serum of a primary sore or of condylomata may be teeming with spirochaetes, as observed by dark background illumination, and within twelve hours of giving an injection of salvarsan or one of its allies no spirochaetes were found. I beg you, however, not to look upon this as evidence of one dose of salvarsan curing a case. The facts which I have given above show that there may be both clinical and blood test relapses even after several injections. The only way to effect a cure is to treat the patient sufficiently early. There are some cases in which, even after numerous courses of treatment, we are unable to effect a permanent change in the Wassermann reaction.

### *Preparations Used.*

The arsenical preparations for intravenous injection fall into two groups, the types of each group being salvarsan (606) and neo-salvarsan (914). The salvarsan group, to which kharsivan and arsenobenzol belong, are acid in reaction and require careful neutralization by a solution of potassium hydrate.

The neo-salvarsan group includes novarsenobenzol, novarsenobillon, and does not require neutralization. Galyl does not require neutralization. These drugs are dissolved in sterile saline solution.

The most recent introduction is Danysz's luargol, a combination of arsenobenzol with silver, bromine, and antimony. It is given intravenously in alkaline solution, but recently a soluble sodium salt has been made which is more convenient to use. It is too early to say more than that the results, so far, are very promising.

### *Method.*

The next question of importance is, Shall the drug be in dilute or concentrated solution? There are many advocates for the administration of concentrated solutions. The advantage is that the injection can be made with a syringe containing 10 c.cm. of the solution. If the operator is expert the injection of this small quantity of solution with a Record syringe in a simple matter. The needle is introduced into the vein and a little blood is withdrawn, showing that the vein has been entered, and then the solution is slowly introduced. The disadvantage is that without great care it is easy to pass the needle through the wall of the vein and to inject the highly concentrated solution into the connective tissue, a procedure which immediately causes intense pain, and, what is infinitely worse, a necrosis of tissue with ulceration which may take many weeks to heal. I therefore strongly urge that until a man has mastered the technique and feels quite sure of himself, he should use dilute solutions.

The dilute solutions are usually made up to 100 c.cm. They are introduced either by gravity or by a pressure bottle. The gravity apparatus is preferred by many. It consists of two vessels, one containing normal saline and the other the solution. Two rubber tubes governed by stopcocks lead to a single tube to which is attached the needle. It is usual to have a piece of glass tube as a window inserted in the rubber tube near the needle. The needle is introduced with the reservoirs at a low level, and as soon as blood appears in the glass window the apparatus is raised to about 4 ft. above the patient. First a little normal saline is run in and then the solution, and finally a little more normal saline. The needle is then withdrawn, and the puncture covered with a pad and bandage.

In this clinic we employ a convenient apparatus devised by McIntosh and Fildes. The solution is placed in a glass bottle with a rubber stopper through which passes one tube to the needle, while the air pressure in the bottle can be raised by a Higginson syringe, care being taken that the air passes through a tube plugged with cotton-wool. The apparatus, which is made by Messrs. Baird and Tatlock, is small and portable.

A two-way syringe drawing in saline first and then the solution is also in use.

### *Preparation of the Patient.*

The night before an injection is given the patient should take an aperient pill followed by a saline in the morning. He should take no solid food for at least four hours before the injection, and should lie flat on a bed or couch when the operation is performed.

*Precautions in Making the Injection.*

In all intravenous injections the following precautions must be observed:

1. The urine must be tested before *each* injection.
2. The drugs are sent out sterilized, but the saline or distilled water and all the apparatus must be carefully sterilized.
3. Care must be taken that the drug is completely dissolved.
4. The site of injection must be well washed and then carefully cleansed with ether or painted with iodine.
5. The vein must be made prominent by applying a rubber tourniquet or band round the upper arm. Immediately it is known that the vein is entered the tourniquet or band must be released.

I prefer in all cases to give the patient a rest for a night after the injection.

*Immediate Reactions.*

Of 1,120 consecutive injections given in my department the temperature rose above 100° F. in 149 instances—namely, 13.3 per cent.; of these, 29 reached 103° F. or over—namely 2.6 per cent. The febrile reactions are met with chiefly after the first injection and mostly in the florid secondary cases. Other symptoms are slight shivering, with occasional vomiting and diarrhoea. In rare instances a scarlatiniform rash occurs, apparently due to the drug.

In very exceptional cases, in the early days of the salvarsan treatment, we saw symptoms of meningitis. In a case under my observation the patient complained of headache on the third day after the second dose. This was followed by convulsions, and the patient died in coma on the fifth day. In these rare cases multiple small haemorrhages have been found in the meninges of the encephalon.

Another reaction is characterized by symptoms of nephritis, uraemia, and suppression of the urine. These phenomena are believed to be due to renal inadequacy. A transitory jaundice may also appear, and in very rare instances toxic hepatic symptoms.

Pulmonary embolism has also been described. It has occurred as a sequel to thrombosis of the vein used for injection.

Much has been written on cranial nerve affections following injections of arsenical compounds. Seventh and eighth nerve paralysis has been observed. It is more probable that the paralysis is due to the syphilis, and cases are recorded in which a further injection has cured the condition. A transitory vasomotor crisis sometimes follows the injection, the face becomes swollen, congested, and sweating, the pulse rapid and dicrotic, and the patient complains of headache.

*Selection of Cases.*

These considerations suggest the importance of carefully selecting cases. The following general conditions are held to contraindicate the injection of these drugs: (1) Renal disease of non-syphilitic origin. Albuminuria without casts may be due to the syphilitic poison, and I have several times seen it clear up after an intravenous injection. (2) Grave heart disease, and (3) hepatic cirrhosis are also conditions in which it is dangerous to carry out the treatment.

*Subsequent Treatment by Mercury.*

The subsequent treatment of the patient by mercury demands a few words. The most satisfactory method is intramuscular injection. I use a mercurial oil as follows:

| | |
|---|---|
| Mercury ... ... ... ... | 66 grains. |
| Sterilized anhydrous lanolin ... ... | 4 drachms. |
| Sterilized liquid paraffin ... ... | 6 drachms. |

One grain of mercury is injected once a week. The oil may require warming, especially in cold weather, to allow it to pass through the needle. The site for injection is the outer third of a line drawn from the anterior superior spine of the ilium to the top of the gluteal cleft. Alternate sides are used for the injections. The needle should be 2 in. in length, and should be carefully sterilized before introduction, the site of the injection also being cleansed with ether or painted with iodine. The needle is plunged vertically to the surface deeply into the muscle and the injection is made slowly. There is some subsequent pain, and the patient should rest for a little while after the operation. Sometimes there is difficulty in getting the patient to come regularly for these injections, and in such cases the inunction of 1 drachm of mercurial ointment daily should be ordered. The inunction is made into a soft part of the skin, for example, the sides of the chest, bends of the elbows, etc. The ointment must be well rubbed in, a quarter of an hour being allowed for each rubbing, and two rubbings should not be made consecutively in the same place. A course of thirty rubbings may usually be given, but if the gums show signs of mercurialism the process should be suspended.

A third method is to give Hutchinson's pill containing

| | |
|---|---|
| Hydrarg. cum cret. ... ... ... | 1 grain |
| Pulv. ipecac. co. ... ... ... | 1 grain |

three times a day after food.

*The First Course of Treatment.*

The first course of treatment should consist of three intravenous injections at weekly intervals, followed by eight intramuscular injections of mercury. At the end of two months the "Wassermann" reaction should be examined. In about 70 per cent. of my primary and secondary cases it is negative at this period. The blood test should be made again after three months, and if it is positive, as is not infrequent, especially in secondary cases, the treatment should be repeated. At regular intervals the blood should be again examined, and further treatment given if required.

In all cases the patient receives a paper telling him how to avoid spreading infection, and giving instructions as to diet, especially abstinence from alcohol.

*Treatment of Congenital Syphilis.*

As a routine I prefer mercurial inunction, and a quarter of a drachm of mercurial ointment is rubbed into the abdomen once daily after bathing. A flannel binder is worn over the ointment. The mother should be treated if possible. The duration of mercurial treatment in the infant should be controlled by the "Wassermann" reaction. Intravenous injection in young babies is so difficult that it is rarely practicable. Treatment through the mother, if suckling, may prove satisfactory. The presence of snuffles sometimes prevents the child from suckling, and in such cases feeding by a spoon must be adopted.

*Persistence of the Blood Reaction.*

One meets cases in which, in spite of repeated treatments, the "Wassermann" reaction cannot be rendered permanently negative, and the important question arises whether treatment should be continued indefinitely and whether such subjects should be allowed to marry. From the point of view of the public health we may say definitely that so far as our experience goes patients who have had these repeated courses and yet have a positive Wassermann reaction are not a source of infection, and we believe that it is safe for them to marry. Hutchinson's long experience showed that marriage was safe after mercurial pills for two years, when it is known that over 50 per cent. of the cases would have a positive "Wassermann."

Where the patient has a persistently positive reaction I think it is wise to give a short course of mercury at least twice a year.

[After the lectures, Dr. J. McIntosh demonstrated the methods of examination for spirochaetes and the technique of the blood examinations, and Dr. Sanders gave a series of demonstrations of intravenous injections.]

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[2] Gibbard and Harrison, *Brit. Journ. Dermat.*, xxv, p. 318.

MR. R. W. DOYNE, F.R.C.S., of Oxford, left estate valued at £18,374.

SYSTEMATIC instruction in hygiene is to be given in the schools of New York City by Dr. C. Ward Crampton, director of the department of physical training, hygiene, and athletics of the public schools.

# Lectures
ON
# DISEASES OF THE MALE URETHRA.

BY
FRANK S. KIDD, B.C., M.B.CANTAB., F.R.C.S.,
ASSISTANT SURGEON, LONDON HOSPITAL, AND SURGEON TO THE GENITO-URINARY DEPARTMENT.

## LECTURE II.

### DIAGNOSIS.

In the study of urethritis the most important thing of all is accurate diagnosis—first as to whether a patient has the disease or not; secondly, if he has the disease, the stage of the disease—namely, acute anterior, acute posterior, or chronic urethritis; finally, if the disease is in the chronic stage, the accurate diagnosis as to where the disease is lurking, in what glands, or beneath what portion of the mucous membrane.

Why is accurate diagnosis so important? In the first place, many a man comes to me who affirms that he has gonorrhoea and his doctor affirms the same. Yet when I come to examine his urethra by accurate methods, I find he has no signs of disease whatever. Secondly, many a man comes to me passed as cured by his doctor when in reality he is not cured at all. These are the men who spread the disease broadcast. Again, many and varied are the short cuts to cure published every year. Yet if you will analyse carefully the papers written on the subject, you will find that many of those who publish these short cuts have no accurate standard of cure. They publish as "cures" large numbers of cases which are in reality by no means cures. These "cures," fortified by the assurance of their healers, launch forth afresh and infect other women, and so the disease goes round.

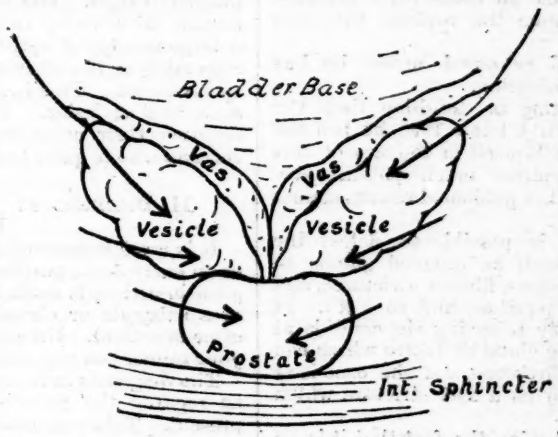


FIG. 2.—Directions in which to massage the prostate.

Practitioners are persuaded to trust these new methods when in reality the methods may not be curing but merely rendering the disease latent. It is so easy to render the disease latent and to persuade yourself you have obtained "a cure." Again, take the question of marriage. How disastrous to let a man get married to a healthy woman unless you really can say that he is free from disease!

I need labour this point of accurate diagnosis no longer. Enough has been said to show the extreme importance of an accurate standard of diagnosis as to whether the disease is present at all, and if so in what stage and to what extent.

Now I am open to criticism of my treatment. Many may say it takes too long and may wish to shorten it, but I am convinced that my methods of diagnosis as to cure are extremely accurate. When by my methods I say that a man is not cured I am willing to swear to it, and so for the converse. No one, then, should embark on trials of a new treatment until he has first been thoroughly trained in accurate diagnosis, and until he realizes how easy it is to get rid of urethral discharge and obtain an apparent cure.

I propose, therefore, to start this lecture by describing my method of tackling a case of chronic gonorrhoea or gleet and of establishing the diagnosis. I will then describe my method of tackling an early acute purulent case. Note at once that the two methods of approach are poles asunder.

### I. DIAGNOSIS OF A CASE OF CHRONIC GONORRHOEA OR GLEET.

*First Step.*

We will suppose that the man has held water for some hours. He will probably complain of no discharge, but will state that the lips of the meatus are stuck together, and that he notes threads in the urine, or a gleety discharge on rising from bed. Strip the urethra, collect any discharge that can be obtained, and spread it out on several slides. Note that many a man has gonorrhoea from whom not a trace of discharge can be obtained. Fix and stain the films appropriately, and examine for pus cells and gonococci. If only pus cells are present the man is suspect, though the case is not proven. This is the easiest and simplest proposition. But the man may have no obvious discharge, so that further investigation is needed.

*Second Step.*

Let the man pass urine into two glasses. The urine may be hazy with pus—that is to say, the haze does not disappear when acetic acid is added to the first glass, and becomes ropy if potassium hydrate is added to the second glass. This proves that a deep urethritis or a cystitis is present. Note here that if a man is taking sandal oil, then his urine may be hazy with fat droplets. This point will be dealt with later. If the urine is clear, but contains threads, the man is suspect. Place a thread under the microscope. If it contains a large number of pus cells the man is almost certainly infectious. The urine may be clear and contain no threads. Even so the man may be infectious, as can be proved by the third step.

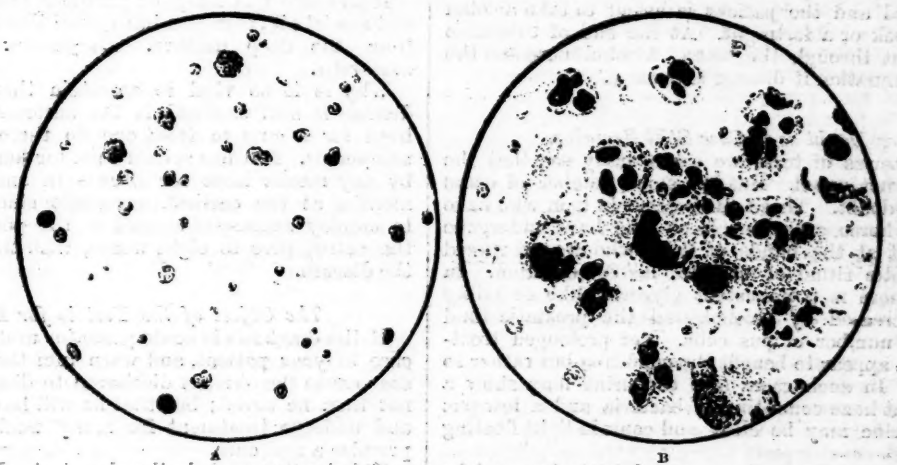

FIG. 3.—Prostatic fluid. A, Healthy; B, purulent.

*Third Step.*

Ask the patient to kneel on a couch. Cover the right index finger with a rubber finger-stall. Insert the finger into the rectum, and proceed very gently to massage the prostate in the manner to be described later (Fig. 2). After a minute or so several drops of opalescent fluid will drip from the meatus. Collect a drop on a slide, spread out and stain with borax, methylene blue, or carbolthionin. Examine under a microscope. Healthy prostatic fluid consists of masses of amorphous bodies of varying sizes staining a deep blue. These masses are "lecithin bodies" or droplets of fat, prostatic fluid being an emulsion of fat, or, in other words, a lubricating fluid. A few epithelial cells are seen, but no pus cells. If the contents of the vesicles are also expressed, large pale blue discs of

vesicular secretion are seen, and sometimes large numbers of spermatozoa. If pus cells are also detected you can be certain that the man is suffering from prostatitis (Fig. 3). If many pus cells are present, you can be sure the disease is still infective, even though you fail to detect gonococci. If only a few pus cells are present the help of a clinical pathologist is needed, and the fluid should be examined by him on several occasions. Such examinations should include differential stainings and cultural methods. The clinical pathologist will state if gonococci are still present. If so, the man is not cured. If absent on several examinations other bacteria will probably be detected, such as staphylococci, streptococci, or bacilli of the colon group. These are generally caused by secondary infection, and are not contagious to a woman.

*Fourth Step.*

Suppose the man has passed all these tests satisfactorily, you have still to examine the urethra with the urethroscope.

No man should be passed as cured unless he has undergone this method of examination.

When I note a man writing or teaching that the urethroscope is of no use, then I know that he has not tried sufficiently hard to train himself in the use of this instrument—a task that requires much patient perseverance—and I know that his published results cannot be trusted.

With the urethroscope it is possible to detect the presence of common lesions such as infected glands of Littre, soft submucous infiltrations, fibrous strictures, and rarities such as warts, polypi, pouches, and so forth. In many cases that are constantly relapsing the cause is at once detected as a suppurating gland of Littre which can be destroyed through the urethroscope, and the case is at once cured, or it may be found as a soft stricture which needs dilatation.

Once more I wish to emphasize the fact that it is no good sending a man away labelled "cured" when you have not used the urethroscope, as you may be sending him away with an early soft stricture, which in this early stage can rapidly be cured by dilatation, but which later on may become hard, fibrous, and perhaps incurable. This is one of the most important reasons why it is impossible for a bacteriologist to treat urethritis by vaccines alone in his laboratory. Even if he stops the discharge he has not done his duty by his patient if he has not excluded stricture with the urethroscope.

*Fifth Step.*

Finally, if there still remains any doubt, all treatment is discontinued and the patient is asked to take alcohol daily for a week or a fortnight. At the end of this time he is again put through the tests. Alcohol increases the signs of inflammation if disease is present.

*When Doubt as to Case Still Remains.*

After this series of tests we can usually say that the man is or is not cured. But in a small number of cases there is still doubt. These cases occur in men who have ridden hard a horse or a bicycle or who have undergone long treatment at the hands of those who are not versed in the antiseptic ritual of urethral instrumentation. In such cases there is a persistent glycerine-like or milky gleet, not increased by alcohol, and the prostatic fluid shows a fair number of pus cells. Yet prolonged treatment does not appear to benefit the condition but rather to aggravate it. In such cases also the urine may show a most persistent haze consisting of bacteria and a few pus cells, or the urine may be clear and contain light floating threads.

In such cases at least three complete tests must be made, a clinical pathologist being present, who should take cultures and films of all the various secretions above described, the man being on alcohol. If all these tests are negative for gonococci, and show simply the presence of staphylococci or streptococci or bacilli, then the patient can be passed as cured of his gonorrhoea, can be allowed to marry, and should discontinue all treatment. Treatment only seems to irritate such cases, whereas if it is discontinued in a year or less the gleet dies away of itself.

*A Note on Threads.*

If the threads are a bright yellow colour, and sink at once to the bottom of the glass, you can be certain they are rich in pus, and are infective.

If the threads appear as tiny yellow commas, which sink fairly quickly, you are dealing with little plugs of purulent secretion squeezed out of the prostatic ducts (prostatic or comma threads).

If the threads are small and glycerine-like and rise to the top of the glass, you will find that they consist of epithelial cells and an excess of mucus. The case is probably cured, but the urethral mucosa and glands have been irritated by prolonged treatment into secreting an excess of mucus and epithelium.

If the threads appear as long coils of greyish mucus which neither sink nor float to the top, you are probably dealing with a secondary infection.

Note that the threads simply mean pus or mucus of urethral origin. The secretion lying on the wall of the urethra is swept up into threads by the stream of urine. A large number of healthy men pass threads in their urine, consisting of mucus from the urethral glands and a few spermatozoa. This is especially so for a day or two after a seminal emission. Discourage your patients from inspecting their urine for threads. Many a man passes threads who is quite healthy.

## II. Diagnosis in a Case of Acute Purulent Urethritis.

It is most important for you to learn that the diagnosis of an early acute purulent case (a few days to a few weeks after infection) is made in quite a different manner to that of a subacute or chronic gleet case (two months or more after infection). Unless I can get this idea firmly fixed in your minds you will suffer confusion.

The diagnosis in an acute purulent case is usually easy as regards the gonococcus itself. Profuse discharge is present. Take and stain a film, which will show at once the presence of pus cells and gonococci. What further facts do you need to know?

You want to know if the disease is still confined to the anterior urethra or if it has spread to the deep urethra.

This is easily determined by the glass test. Wash out the anterior urethra with $\frac{1}{4000}$ oxycyanide of mercury by Janet's method until the washings come away quite clear, as tested by pouring them into a glass and holding them up to the light; that is to say, till all the pus in the anterior urethra has been washed away. Now ask the patient to pass water into a clean urine glass.

If the urine is clear you have proof that there is no pus coming from the deep urethra. *Diagnosis: Acute anterior urethritis.*

If the urine is hazy or purulent (exclude phosphates and sandal oil), then you have proof that the pus is coming from the deep urethra. *Diagnosis: Acute posterior urethritis.*

Why is it so vital to ascertain these facts? If the disease is still confined to the anterior urethra you can hope for a cure in from one to three weeks (abortive treatment). If it has spread back further, then you cannot by any means hope for a cure in under two or three months at the earliest, especially since you ought not to employ antiseptic washes to the posterior urethra at the outset (five to eight weeks) with the idea of aborting the disease.

*The Object of the Test is for Prognosis.*

If the diagnosis is acute posterior urethritis, explain the case to your patient, and warn him that though you can soon cause the obvious discharge to disappear, yet he will not then be cured; but that he will have to live carefully and undergo treatment for many weeks before you can promise a real cure.

This is all there is in the glass test. You will read of a two-glass, three-glass, five-glass, and even a seven-glass test. There is no need for all this complication of what is, after all, a very simple matter. One glass alone is required, and one enamel pot and an irrigator.

Place the patient on a couch and wash out the anterior urethra with a clear liquid into the pot until the washings, as seen by pouring them into the glass and holding them up to the light, are seen to be clear of haze and threads. Empty out the glass and then ask the patient to rise and

pass water into it. If the urine is clear, the deep urethra is clear. If the urine is purulent, the deep urethra is purulent.

What could be more simple than this? It tells you if the patient is suffering from anterior urethritis alone, or if he is suffering also from posterior urethritis. This is the vital fact you want to know, as your want to explain matters to your patient.

### Rectal Examination.

*Tactile Diagnosis of Inflammation of the Prostate and Vesiculae Seminales.*

In all cases, and especially in cases of acute posterior urethritis, examine the rectum with the right index finger encased in a rubber cot. The prostate may not be swollen at all. Do not, however, massage the prostate, as you will only irritate. (Only in exceptional circumstances is it wise to massage the prostate during the acute stage (five to eight weeks).)

The prostate may be swollen up to the size of a Tangerine orange on one or both sides. This means that there is a prostatic abscess containing several drachms of pus. There is seldom any need to open such an abscess. The exceptions will be considered later. Leave it alone to burst naturally into the deep urethra, unless there is concomitant retention of urine. In that case it is justifiable and often helpful to press gently on the abscess and partially empty it into the deep urethra, with relief of the retention. This is one exception to the rule given above.

In other cases the prostate is not swollen, but one or both vesicles can be felt to be swollen above and outside the prostate. These cases need great care in handling, and should be put to bed. They suggest the likelihood of an approaching epididymitis or of swollen joints and iritis.

I repeat, "Do not as a general rule begin to massage the prostate or the vesicles until at least five to eight weeks from the onset of the disease"—that is to say, only when the chronic and quiescent stage is approaching in the natural course of events.

A gonorrhoeal vesicle is sometimes mistaken for a tuberculous vesicle by the injudicious. The diagnosis is seldom in doubt if a proper history and examination has been made. Do not begin to think of tuberculosis unless there exists no history of exposure to infection or of urethral discharge, but a history of spontaneous epididymitis of a nodular type, the urine remaining clear of pus.

### The Diagnosis of Epididymitis.

Do not forget that by far the commonest cause of epididymitis is gonococcal urethritis, but that at the onset of this complication the urethral discharge in the anterior urethra often suddenly dries up. Ask the man to pass water. You will find it full of pus in a gonorrhoeal case, and, if still in doubt, the urine can be centrifugalized, and specimens of gonococci and pus obtained.

In the absence of venereal history and with a clear urine a sudden epididymitis is probably tuberculous. Suspend and rest the testicle a few days, when the acute hydrocele will subside, and it will be possible to distinguish the nodular craggy epididymis, with perhaps isolated nodules or beadings in the vas, an unfailing sign of tuberculosis. If necessary apply the tuberculin tests, and search the urine or the prostatic fluid for tubercle bacilli.

There is, however, another trap for the unwary not mentioned in the textbooks. It is not uncommon for men who are run down by exposure and fatigue to develop suddenly an acute epididymitis with fever, pyuria, pain at the end of micturition, increased frequency of micturition, possibly pain in the back, and even a slight urethral discharge. The pathology is as follows: Being run down, such persons absorb colon bacilli from their bowel into the blood and throw it out through the kidney and prostate. The bacilli lodge and set up inflammation, and spread to the epididymis. Such cases often suppurate; gonorrhoeal epididymitis never suppurates.

The diagnosis is made by cultural examination of the urine, which reveals the colon bacillus in pure growth. I have many instances in my notes of this trouble. Such patients often have a concomitant stricture or senile enlargement of the prostate.

Finally, if a testicle has suppurated and you detect a sinus then you may be certain you are dealing with the tubercle bacillus or the colon bacillus.

### Differential Diagnosis.

Be on your guard against making a rash diagnosis of urethritis because you see pus issuing from a long foreskin. Many a case of balanitis is wrongfully labelled as urethritis. If there is phimosis and pus is present under the foreskin—

1. Make a film and stain. In balanitis no specific diplococci are seen, only mixed cocci or bacilli.
2. Wash away all the pus from under the foreskin and then ask the patient to pass water. If the water is clear you have proof that there is an absence of acute urethritis.
3. Slit up the foreskin if it cannot be retracted and inspect the parts beneath. Usually soft sores, or a chancre, or septic warts will be found, and occasionally even a cancerous or phagedaenic ulcer. Do not, however, forget that specific urethritis may be present as well as balanitis.
4. Another common lesion of the foreskin or glans penis is herpes. Herpetic sores are usually multiple, a little larger than a pin's head, with well-defined punched-out edges, a yellow or grey floor, and painful and tender to the touch. Once a man has developed herpes he is constantly liable to relapse of the trouble. The exact pathology of herpes of the penis is not known, but I believe these little ulcers are caused by some specific germ which, once contracted, lives on the penis, and from time to time works up its virulence and causes ulceration. Probably mechanical excoriation during coitus plays a part in each relapse. A little urethral discharge with pain on passing water is quite common in herpes, and is due to ulceration inside the meatus. The urine is clear, and the microscope proves the absence of gonococci.
5. Do not forget how common it is to find the burrows of scabies not only in the foreskin, but on the surface of the glans itself.
6. Remember also that ulcers about the fraenum may be simple mechanical tears, not infected by any specific organism.

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## THE CLINICAL ASPECT AND TREATMENT OF ACUTE BACILLARY DYSENTERY.

BY

CAPTAIN J. B. FISHER, R.A.M.C.

Bacillary dysentery may exist in an acute or chronic form, but I intend to confine my remarks entirely to the acute variety, and in connexion with it shall omit all reference to the bacteriological and pathological aspect of the disease, as my own experience is purely clinical.

Since January 1st, 1916, I have treated 183 cases of acute bacillary dysentery. They have been drawn from the camps in the vicinity of this hospital, and almost all have been admitted within forty-eight or seventy-two hours of the onset of symptoms. Some, indeed, are admitted during the first five or six hours of their illness, and occasionally I have been fortunate in obtaining the case before blood and mucus have had time to appear in the stools. The cases seem to fall into six groups, which clinically merge insensibly one into another, but all can be recognized as true dysentery by the isolation of dysentery bacilli from the motions.

### 1. *Catarrhal Cases.*

The onset is sudden, with perhaps ten or more motions in the first twenty-four hours. Afterwards, if untreated, these patients continue to pass frequent diarrhoeic stools containing possibly a trace of clear mucus. Clinically, the cases are distinguishable from simple gastro-enteritis by absence of vomiting and colic, a clean tongue, and preservation of a good appetite. There is also a marked tendency for the bowels to be freely open in the early morning and after a meal. The only absolute proof of the diagnosis is isolation of one of the dysentery bacilli, and this has been done in a number of cases. These patients present no serious symptoms, and generally are easily amenable to dieting and medicinal treatment, though in some of the cases diarrhoea persists until serum is administered.

2. *The Ordinary Ulcerative Type.*

This class is much commoner, and includes the majority of the patients treated. A common history is that of slight diarrhoea a week before admission, apparent cure, and then a sudden onset of true dysentery, but more often the more serious disease has directly followed a little ordinary diarrhoea.

These patients are generally admitted with a temperature varying from 100° F. to 103° F. They are somewhat toxaemic and drowsy, often having a bluish-red flush upon the cheeks. The tongue is furred, and there is a certain amount of abdominal pain. Examination of the abdomen will only reveal tenderness over the colon. The stools may vary from two or three to twenty or thirty in twenty-four hours.

The seriousness of the case must be judged more by the quality than the quantity of the motions, for a patient with extensive infection of the caecum and ascending colon will not have as much diarrhoea or present the same aspect of discomfort as another patient in whom a much less virulent infection is situated near the lower end of the rectum. The bluish, unhealthy flush of the cheeks just mentioned must not be confounded with the healthy red, sunburnt appearance of many patients. In a few cases it is not present, and in others, as in a patient also suffering from nephritis, the anaemia of the latter disease may entirely mask it.

If the condition be untreated, the temperature is usually remittent and the pulse slightly more rapid than normal. In these patients vomiting is extremely rare. If this symptom is present in a patient admitted with a provisional diagnosis of dysentery, it usually means that either he is only suffering from gastro-enteritis, or that his attack of dysentery is going to be of the fulminating type, and is an indication for the immediate injection of a large dose of serum.

I think the first stage of the disease is a toxaemia emanating from the bacilli multiplying in the mucosa of the large intestine. The first effect of this is to inhibit peristalsis, and it is only when the local irritation becomes sufficiently intense that this stage gives place to the passage of blood and mucus. Consequently, except in the fulminating type, the toxaemia is often in inverse proportion to the diarrhoea, and as the latter increases the former becomes less marked. In the majority of patients this stage of inhibition of peristalsis is transient, but sometimes it is so marked that it is necessary to administer aperients. At first the stools are simply diarrhoeic, but within twelve or twenty-four hours the faecal matter gradually gives place to clear and blood-stained mucus; sometimes also there is a fairly copious admixture of pure blood.

Only in the worst cases do the patients pass much blood-stained serous fluid. As the intensity of the symptoms abates the fresh blood becomes less, the mucus thicker and less watery, until finally the stools may consist of greenish and opaque mucus, which in turn is gradually replaced by faecal material. Sometimes sloughs are also present, but if serum is administered early this is exceptional, so I have purposely omitted to describe them as an ordinary constituent of these motions. In some of the cases the mucus is mixed with pus and broken-down blood, so that the stool is rather like the contents of a hepatic abscess. When the infection includes the lower end of the rectum the stools may be small and frequent, as in amoebic dysentery, but I have always found them less tenacious and more copious and watery than in the amoebic disease.

3. *The Toxaemic Type.*

Though in this type the patients may have had slight diarrhoea for one or two days, it is not a prominent symptom on admission, and is quite secondary in importance to the toxaemia, which may be so intense that it is only with difficulty that an accurate history can be obtained from the patient. They have, in addition to the characteristic flushed appearance, a moist furred tongue, a high temperature, and a pulse more rapid than normal. They complain of headache and slight abdominal pain, and, if not disturbed, may sleep continuously for twenty-four or forty-eight hours.

During this stage there may be constipation, and it is not until two or three days later, when blood and mucus appear in the stools, that the true condition is revealed. The local damage is small, and saline aperients are generally all that is required, though, if the case be diagnosed, it is safer to give serum.

One of the cases in this class is interesting in that the first stool, passed forty-eight hours after admission, showed no evidence of dysentery, and it was not till another twenty-four hours had elapsed that blood and mucus began to appear.

4. *The Fulminating Type.*

In this type the patients are generally admitted within twelve or twenty-four hours of the onset of symptoms. The temperature may be raised, but they are often collapsed, toxic, and give a history of vomiting. The diarrhoea is intense, often passing on to incontinence, and there may be either retention or incontinence of urine. The tongue is dry, and covered with fine and sticky fur. Abdominal pain is very severe, the abdomen so tender that they dread being touched; there is no appetite but great thirst is present. The straining and tenesmus cause insomnia, and such restlessness that morphine may be required. There is, in fact, a combination of severe toxaemia and severe local symptoms.

As the case progresses the loss of fluid causes the patient to shrink and appear smaller, his bones become prominent, his eyes sunken, his skin inelastic, and the tongue so dry that there is difficulty in protruding it. Hiccough may also add to his discomfort, and abdominal pain may remain as severe as on admission. The toxic appearance gives place to an ashen, bluish-grey colour, though even when this stage is reached the patient may recover.

When first admitted the stools are frequent and copious, often one or two pints in volume. They consist of blood-stained serous fluid, sometimes looking like the urine of a case of acute nephritis, and at other times like a weak solution of potassium permanganate with lumps of clotted blood and fibrin floating about. At first there is no mucus, and it would seem that the irritation of the mucosa is so severe that there is no opportunity for its secretion. I am told that if a patient dies in this stage *post-mortem* examination reveals only an intense hyperaemia of the mucous membrane of the intestine.

As the body fluids are excreted the stools become less liquid and blood-stained mucus begins to appear. Soon sloughs are also present.

In spite of the administration of serum the patient will continue to pass necrotic products, blood-stained mucus and pus, and it may be three or more weeks before blood entirely disappears and the mucus takes on that greenish opaque appearance which is generally a precursor of ultimate recovery.

The progress of the case is to be judged by the diminution of the blood rather than the sloughs, for those portions of mucosa which have been irrevocably damaged in the first week of the illness must take some time to be completely separated. The only treatment of any avail in these cases is early administration of large doses of anti-dysentery serum, and a delay of twelve hours in deciding whether the case is amoebic or bacillary dysentery may mean the ultimate death of the patient. This is why I lay so much stress on the naked-eye appearance of the stools and the bluish-red unhealthy flushed cheeks of early bacillary cases as diagnostic features. I have never seen this toxic appearance in a pure amoebic case.

The temperature cannot be relied upon, as there may be a rise at the onset of acute amoebic dysentery, and in the worst bacillary cases it may be subnormal; the patient may be so ill that administration of a large dose of serum may not cause any reaction.

It must, however, never be forgotten that acute bacillary dysentery may be superimposed upon a milder amoebic infection. In these "mixed cases" the bacillary element may obscure the amoebic, and it is not until four or five days later, when the serum has taken effect, that the case presents the characteristics of amoebic dysentery. This holds good when both emetine and serum have been given from the first, as the action of emetine on the amoebic element, though just as certain, is not so rapid as that of serum on the bacillary.

5. *The Choleraic Type.*

The onset in these cases is sudden, with collapse, cramps in the arms, legs, and abdomen, and the passage

of rice-water stools. The collapse may necessitate intravenous saline infusion. Lieutenant Willmore tells me that this type was quite common at the quarantine station at El Tor.

I have only had one case, which closely resembled ptomaine poisoning, but was confirmed as dysentery by the bacteriological findings.

The patient had had slight diarrhoea on the Gallipoli Peninsula, but had not been excused duty on account of it. At the time the attack commenced he had been three weeks under treatment for myalgia. He was allowed out of bed, had had no intestinal symptoms, and was upon an ordinary diet. No other case occurred in the same ward. The diagnosis was made upon the following data:

(*a*) Very acute onset, with rice-water stools containing mucus and mucous sloughs, the latter a dirty white colour.

(*b*) Absence of cholera vibrios.

(*c*) Rapid cure following a large dose of antidysentery serum given within six hours of the onset of symptoms.

(*d*) Three weeks later the blood strongly agglutinated Flexner Manilla dysentery bacilli. It did not agglutinate Shiga-Kruse bacilli.

(*e*) The patient was isolated, and the sister looking after him developed a similar but slighter attack, and in her case Flexner's bacillus was isolated.

(*f*) His previous diarrhoea could be accounted for by the presence of *Lamblia intestinalis* and *Trichomonas intestinalis*, which were found in abundance in the stools.

### 6. *Localized Attack.*

The sixth and last type, in which patients in good health are found to be passing formed stools coated with a little blood and mucus, demonstrates how mild and localized an attack of bacillary dysentery may be, and these cases are interesting as they offer such a contrast to the two preceding types. They sometimes resolve in one or two days, but one patient who refused antidysentery serum was still passing blood and mucus after two months. This particular patient objected to all forms of treatment except emetine, and of this he had 18 grains, from which he received no benefit.

## TREATMENT.

### *Dietetic.*

The aim in deciding upon a diet is to find one which will sustain the strength of the patient without leaving much residue to pass into the large bowel. In accordance with this principle, cases admitted to my lines are only allowed albumin water, barley water, and lemon water for the first forty-eight hours. This may seem rather drastic, but I am sure it is the correct treatment. Also this period of abstinence from food combined with an aperient is generally sufficient to cure the simple gastro-enteritis, and such cases can then be discharged to duty two or three days later. Coincidentally with the improvement of the general conditions of the patient with true dysentery, his diet is gradually increased somewhat upon the following lines:

Breakfast (7 a.m.): Two or three eggs and tea.
Lunch (11 a.m.): Jelly or arrowroot and a piece of chocolate.
Dinner (1 p.m.): Beef-tea and milk pudding.
Tea (4 p.m.): Custard and tea.
Supper (7 p.m.): Cocoa or biscuits.
During the night bovril or a little Horlick's malted milk.

Milk is not allowed except in the form of pudding or custard, as it is much too bulky for an acute or chronic dysentery. In addition it passes through the intestines, and by giving the stools an intense green colour tends to mask their character.

Upon this diet many cases increase in weight. No further increase is allowed until the patient has been ten consecutive days without passing more than two stools in any twenty-four hours, after which bread-and-butter is added, and chicken follows in two or three days more. It is very important that this period of abstinence be enforced in order to give the inflamed and damaged intestine time to recover.

I believe that the irritation and secondary infection caused by increasing the diet too soon after cessation of acute symptoms is one of the chief causes of the cases of post-dysenteric colitis which are so resistant to treatment.

The fulminating cases need further consideration. On account of the subsequent griping, beef-tea, bovril, and similar tasty foods are not indicated, but stimulants may be required. I have found the latter to do good, though in most textbooks they are stated to be contraindicated. In these cases also the mucus may persist so long, the patient becomes so emaciated, and the bowels remain so weak and irritable, that it may be advisable, for the purpose of increasing the strength and general resisting powers of the patient, to add to the diet before all signs of active dysentery have disappeared.

### *Medicinal Treatment.*

In view of the frequent complaints that the constant desire to go to stool robs patients of sleep, it may seem at first sight that some theoretically sedative mixture such as bismuth or chlorodyne is indicated in order to ease pain, diminish the diarrhoea, and thus allow of sleep.

In a few of my earlier cases I adopted this line of treatment, in spite of the fact that by so doing I was locking up, in intimate contact with the bowel wall, the noxious matter and organisms which the intestine had been doing its best to expel. I found that the effect on the pain was transitory, and that what little sleep was obtained did not refresh the patient, who, on the contrary, began to complain in addition of headaches, flatulence, and a nasty taste in the mouth. I found further that the diminution of the diarrhoea was only apparent for two or three days, and afterwards became as bad as, if not worse than, before, and the stools from being odourless became foul. It is to be presumed, also, that the damage to the intestinal mucosa was greater in proportion to the length of time during which this pseudo-sedative effect lasted,

The drugs above all others which ease pain and allow of sleep are those which aid rather than oppose the effort of nature to free the host of the poison which is invading him, or to neutralize it *in situ*.

Reliance must therefore be placed on specific treatment—namely, multivalent antidysenteric serum. This receives material assistance from such aperients as the sulphates, castor-oil, and liquid paraffin. The former in particular are said to be absorbed in the first part of the alimentary canal, and to be excreted through the mucosa of the large gut, where they exercise a marked exosmotic effect. They thus conduce to lavage from within outwards of the diseased mucosa, and wash out the morbid material in the process.

My treatment has therefore been magnesium sulphate ʒj thrice a day for the first few days, and then, as the stools diminished in frequency and improved in appearance, the amount was gradually reduced. This applies to practically all cases, and seems to me of such importance that I would again emphasize the fact that these drugs instead of increasing the diarrhoea diminish it, for by washing out noxious material and cleansing the bowel they get rid of much of the irritation. Larger doses than those which I have mentioned are not indicated, as they may nauseate the patient, increase his discomfort, and perhaps, by scouring too completely the intestinal wall, open the door to bacterial infection of the blood by secondary infecting organisms.

Sometimes in bad cases morphine is needed, and for very severe tenesmus a suppository of cocaine gr. ½ and iodoform gr. iij will be found most useful. A hot-water bottle will in the early stages add to a patient's comfort. With the above medicinal treatment, combined with the requisite specific treatment, there is a marked improvement in the majority of cases within forty-eight hours. For those patients, however, in whom a dry, furred tongue persists indefinitely I sometimes prescribe pure water one pint thrice a day, and, so far, have found this very satisfactory. Rectal lavage with 1 in 1,000 solution of copper sulphate and mist. simaruba often benefit more chronic cases.

### *Specific Treatment.*

With regard to multivalent antidysenteric serum, no hard-and-fast rule can be laid down as to the quantity it may be necessary to inject. Each individual case must be judged upon its merits, with the proviso that cases coming under treatment late in the disease require larger doses than those of equal or even greater severity seen at the onset. In the more severe cases I inject 80 c.cm. into the flank within a few hours of admission, but generally leave the milder ones until the following morning, and then may give 40 or 60 c.cm. Some of the latter do not require serum, but I have noticed that a severe case given serum immediately after admission often recovers more rapidly than a mild one treated without it.

One large dose of serum is sufficient to cure some cases;

others, though much improved, require more, and in these patients, after waiting forty-eight hours, I give a further 60 or 80 c.cm.

This amount has been sufficient to cure some very severe cases, but a few of the worst may need a third or even a fourth dose. Some cases of the fulminating variety have been given 140 or 160 c.cm. serum within twenty-four hours of admission, but in these patients the first injection should, if possible, be given intravenously, for every moment saved is of vital importance.

In the majority of patients antidysentery serum acts like magic, but there are a very few in whom it seems only to have a slight beneficial effect. If four doses of 80 c.cm. each, spread over a period of six or seven days, have not brought about the desired result, I do not think further injections are indicated; consequently, I have never yet given more than 320 c.cm.

As a general rule there is a distinct rise of temperature within twelve hours of the injection of the serum, and sometimes this may last forty-eight or seventy-two hours. I look upon this phenomenon as a good prognostic sign, for in all cases in which it has been well marked the patients have recovered rapidly. It is on account of this reaction, which may be rather severe, that I generally allow forty-eight hours to elapse between each injection of serum.

The onset of true serum disease has been most frequent on the seventh and eighth days after the first injection. The severity of the symptoms has varied with the stock of serum in use. The patients have complained of urticarial rashes, headaches, sore throats, arthritis, and oedema of the scrotum. They always have a rise of temperature, and five of them showed signs of cardiac dilatation. These symptoms have occurred in varying degrees of severity in 70 per cent. of the cases to whom serum has been given.

### RESULTS.

The results obtained in the cases I have treated along the lines above indicated may now be summarized. I have had altogether 456 definitely diagnosed cases. They are made up as follows:

*One Hundred and Sixty Cases between August 30th and December 31st.*—During this period the pressure of work was so great that it was impossible to keep notes of them all, and in consequence, although an accurate diagnosis of the type of dysentery present was made at the time, I am not now able to give exact figures.

*Two Hundred and Ninety-six Cases admitted from January 1st to May 31st.*—Of these 183 were acute bacillary cases and the remaining 113 were either chronic amoebic or bacillary. In this period only one case of acute amoebic dysentery was admitted.

In the first 160 cases two deaths occurred. Both patients came from Gallipoli; one a bacillary case, died the night of admission, and the other, who was a "mixed case," died of a perforated amoebic ulcer.

There were no deaths amongst the 113 chronic cases, but five were invalided to England and one to Cairo on account of persistence of symptoms. Possibly others may have been invalided from the convalescent homes to which they were sent.

The 183 acute cases to which this paper particularly refers were all bacillary, but in eight of these *Entamoeba histolytica* was also present. In this series 69 mild cases did not have serum, 114 had serum. The mixed cases had emetine in addition.

One death only occurred. This was in an emaciated patient aged 39, but who looked twenty years older. The attack was of the fulminating variety, and although he improved a little after large doses of serum, hiccough set in, and he died after being eighteen days in hospital. The diagnosis was verified *post mortem*.

After apparent recovery, 7 cases had a return of diarrhoea before they left the hospital. This, however, cleared up without specific treatment. One case definitely relapsed and required further injections of serum. One other case discharged to duty has since been readmitted. One case who refused serum and continued to pass blood and mucus indefinitely was sent to England. Eight other cases were also sent to England, but they were all convalescent.

They had all been severe cases, and it was thought inadvisable to subject them to an Egyptian summer. Of a total of 183 cases, it will thus be seen that in 173 the recovery was so complete that they were considered fit for duty in Egypt. Apart from serum disease, the symptoms of which have already been described, there have been very few complications worth mentioning. Hiccough has occurred in 2 cases, intense tenesmus in 1, retention of urine in 2, persistent vomiting in 4, herpes in 1, tachycardia in 4, pleurisy in 2, acute rheumatism in 1, enlargement of the liver in 2.

The offending germ has generally been the mannite-fermenting type of dysentery bacillus.

The length of time in hospital varies with the severity of the disease. Mild cases may be discharged at the end of one month, others may require six to eight weeks before being fit for duty, and, finally, patients of the fulminating class may be three or four months, and can then only be considered convalescents.

The length of persistence of the acute symptoms is in inverse proportion to early diagnosis and early administration of antidysentery serum. If an ordinary case be diagnosed soon after admission the injection of serum will generally limit the acute stage to a period of four to nine days. I have had numerous cases in which one dose of 60 c.cm. of serum has reduced, within a period of twenty-four hours after the injection, the number of stools from about twenty to about four. Even although all blood has disappeared from the stools and the case appears convalescent within a few days of his admission, his subsequent complete recovery cannot be hurried, as the diet can only be very gradually increased.

When the patient comes under treatment in the stage in which the bacilli are attacking the intestine, the virulence and intensity of the symptoms are not of much moment, provided that they are accurately gauged and a correspondingly large dose of serum be given.

If, however, the severity of the case is underestimated or the patient be unfavourably situated for early treatment, serious damage may be done to the mucosa before an adequate dose of serum is given.

In these cases, when serum is finally injected, it cannot be expected to give such striking results. By killing all remaining active dysentery bacilli it can prevent further sloughing, but the symptoms due to the ulceration already present will naturally only gradually abate.

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## ON THE TREATMENT OF DYSENTERY.

BY

G. A. FINLAYSON, M.B.ABERD., M.R.C.P.LOND.,

GOVERNMENT PATHOLOGIST, SINGAPORE; LATE CAPTAIN R.A.M.C.(T.).

THOUGH stationed for the past year at a base hospital where the facilities afforded for the treatment of dysentery were excellent, I am fully alive to the difficulties which have to be faced at a field ambulance or casualty clearing station, but I am still of opinion that a more active and vigorous treatment of cases of acute bacillary dysentery is demanded in the early stages of the disease, more particularly by the exhibition of larger doses of antidysenteric serum than have usually been administered in the transferred cases. In the great majority "Mulford's" serum was employed, and it seemed unfortunate that more attention was paid to the dosage prescribed in a "booklet" widely distributed than to the directions printed on the wrapper. A point naturally of great importance in early diagnosis is whether the patient has been infected by the specific amoeba or bacillus. A microscopical examination of the faeces should be made as soon as possible. There is no valid reason why a medical officer attached to a field ambulance and stationed where dysentery is likely to occur should not be supplied with a portable microscope provided with a $\frac{1}{6}$ in. objective and No. 2 ocular; a brief demonstration of the more common intestinal protozoa would, it is needless to add, prove of immense service.

Immediate treatment rests mainly on the microscopic finding, bearing in mind that one is dealing with the early stage of a primary attack. During the past six months only six cases of primary amoebic dysentery were admitted within two to three days of onset; all were discharged cured in less than three weeks. Emetine gr. j hypodermically daily for ten days, or gr. j hypodermically for six days in the morning, with gr. $\frac{1}{2}$ in a keratine-coated pill in the evening. Another case, transferred from Mesopotamia, had been given injections of tannic acid twice daily for seven weeks (the amount of tannic

acid was not stated). On admission, active *E. histolytica* were demonstrated, and the patient was still passing blood and mucus. Within two days the amoebae had disappeared, and within a week the motions had assumed a normal colour and consistence; no cyst was found on examination prior to discharge.

I am well aware that in all cases in which blood and an excess of slime are noted in the stool the inflammatory condition may not be caused by the specific organisms. Having, however, formed the opinion on clinical grounds and from the microscopic appearances of the faeces that the case is one of bacillary dysentery, the question as to the treatment to be adopted arises. Recent results have convinced me that 100 c.cm. antidysenteric serum should be given intravenously without delay, followed, if considered necessary, by a second dose within twenty-four hours. After one intravenous injection of 100 c.cm., subsequent doses may be injected subcutaneously into the axilla, infraclavicular space, or flank. The amount which I usually gave was 40 c.cm. in the morning or evening. In association, a mixture containing magnesium sulphate ʒ j, sodium sulphate ʒ j to ʒ ss of water or mist. alba ʒ j, was exhibited hourly, or even more frequently, until the motions became pale and watery, containing perhaps a few blood-stained shreds; the interval between the doses was then lengthened according to the conditions noted. Disregarding the rigor, which commonly followed the injection of serum, the temperature fell gradually to normal at periods varying from two to six days, the tongue cleaned rapidly, the stools became infrequent, tenesmus was practically absent, and the abdominal pains were alleviated. What was most striking was the intense relief afforded the patient in twenty-four to thirty-six hours after the commencement of the treatment. The diet in the early stage was restricted to albumin water and barley water, with strained chicken tea and Brand's essence. In a series of 9 cases so treated recently:

2 received 200 c.cm. intravenously.
2 received 100 c.cm. intravenously.
1 received 100 c.cm. intravenously and 120 c.cm. subcutaneously.
1 received 100 c.cm. intravenously and 80 c.cm. subcutaneously.
3 received 100 c.cm. intravenously and 40 c.cm. subcutaneously.

Of these, 7 were infections by *B. dysenteriae* "Y," one by a non-agglutinable strain, 2 by *B. dysenteriae* Shiga. Two cases which occurred in the surgical division (Captain C. W. Smith) are of interest in the determination of the incubation period.

CASE I.

Compound fracture of leg. Admitted September 13th, 1916. The onset of the attack of dysentery occurred on September 23rd; the infection was by the "Y" bacillus; Widal positive 1 in 50. On September 24th an injection of antidysenteric serum, 100 c.cm., was given intravenously, followed by a similar dose on September 25th. On September 27th the bowels acted twice and the stool was semiformed and yellow; the temperature was normal. Convalescence was rapid. In this case the incubation period was at least nine clear days.

CASE II.

Admitted on October 2nd, 1916, two days after an operation for radical cure of hernia. The onset of dysentery occurred on October 7th. Non-agglutinable "Y" isolated; Widal positive 1 in 50 Shiga and "Y." On October 9th an injection of 100 c.cm. antidysenteric serum was made intravenously, followed by a second dose on October 11th. On October 12th the bowels acted twice in twenty-four hours, and on October 13th there was no action. On the fifth day after onset no slime or blood noted. Recovery was uninterrupted.

The incubation period in this case was six clear days. Both cases were admitted from out-stations where cases of dysentery had occurred. No further case was noted in the division during the period the patients were in hospital. Neither showed any urticarial eruption.

Rarely was an opportunity afforded of following a case after discharge, but the following case is an exception:

CASE III.

Admitted on July 25th, 1916, with a history of onset twelve hours previously. "Y" bacillus isolated; Widal positive 1 in 50 Shiga. 100 c.cm. antidysenteric serum was given intravenously, and 40 c.cm. subcutaneously on July 26th. By August 5th he was on full diet, and on August 10th he was discharged to duty. He was seen at intervals afterwards, and had no relapse. On November 5th he reported that he had put on 7 lb. during the previous month; he looked fit and well.

When I was relieved of duties on November 8th, 1916, all cases had either returned to duty or were quite convalescent.

*Results Obtained by Subcutaneous Injection only.*

This series comprises 22 cases admitted to hospital with a primary attack—

3 within twenty-four hours of onset of disease.
6 on the second day after onset of disease.
7 on the third day after onset of disease.
3 on the fourth day after onset of disease.
3 on the fifth day after onset of disease.

Ten others had relapsed or had been transferred from a stationary hospital or elsewhere, where they had been under treatment for some days or perhaps weeks. In the first named group the amount of serum administered was on an average 125 c.cm., varying from 80 c.cm. to 200 c.cm., except in one case, which received 20 c.cm. only; in the other group the dosage was on an average 80 c.cm., varying from 20 c.cm. to 150 c.cm. *B. dysenteriae* Shiga was isolated in 9, the "Y" bacillus in 4. Serum diagnosis was relied upon in 12 other cases, being positive 1 in 50 or over Shiga in 8, positive 1 in 50 or over "Y" in 4. In 6 others the serum reaction was positive to Shiga 1 in 20 only.

Of those patients admitted with a primary attack, 3 were under treatment within three days of the onset, and received 80 c.cm., 100 c.cm., and 160 c.cm. serum respectively. Later it was considered advisable to invalid them to England for further treatment, as a sigmoidoscope examination of the lower gut revealed the presence of numerous indolent ulcers. Blood and slime continued to be passed at irregular intervals, though the general condition of each seemed unaffected by the catarrhal condition, and there was a gradual gain in weight prior to transfer. The remainder were discharged to duty or to a convalescent dépôt, the average duration of stay in hospital being one month.

*Treatment by Sulphates.*

Occasionally the statement is heard that cases do just as well on saline purgatives alone without the injection of any specific serum. No doubt in a percentage of cases of the bacillary type, perhaps in "Y" infections more particularly, the condition clears up on the administration of the sulphates. What medical officer, however, deems himself so astute that at the outset of an attack he can foretell that the infection will prove of a mild character and that it will not produce ulceration which may become chronic? In a series of eleven patients, transferred as convalescent from a stationary hospital or elsewhere, no serum appeared to have been injected though several had received numerous doses of emetine. A specific bacillus was isolated from the stool in four instances—in three, "Y" bacillus; in one, Shiga's bacillus. The serum reaction was relied upon in a further seven, being positive 1 in 50 "Y" in one, positive 1 in 50 or over Shiga in six. After further treatment all were discharged save one invalided to England.

COMPLICATIONS.

The urticarial rash, which constantly appeared after a subcutaneous injection, was at times most profuse and distressing to the patient. Carbolic acid 1 in 20, calamine lotion, or lead and opium lotion appeared to allay the itching. In one case there was a distinct febrile attack, with marked headache, which readily yielded to aspirin in small doses.

Synovitis was observed in two cases, which had received 130 c.cm. and 200 c.cm. serum respectively into the subcutaneous tissues (on the tenth day after the first injection). In the one the knee-joints, in the other the left shoulder and small joints of the fingers were involved. In the former there was a considerable amount of effusion, with pain and tenderness, and a marked rise in temperature. The condition in each quickly cleared up under the administration of sodium salicylate gr. xv every four hours. One somewhat debilitated patient developed a late abscess following an injection of 40 c.cm. into the infraclavicular region. *Staphylococcus albus* was isolated from the pus in pure culture. The abscess was opened and drained, and the wound healed rather slowly.

### Bacteriological Results.

Occasionally it may appear difficult to reconcile a series of negative results reported by the bacteriologist with the clinical opinion. In one instance five successive specimens were plated before a suspicious colony was picked off, and shown to be the specific bacillus. In other cases, in which an organism was isolated in the early stage of the disease, further bacteriological examinations were almost uniformly negative, though the patients, after treatment, still exhibited ulceration of the lower gut attended by the passage of blood-stained mucus. A positive Widal reaction of 1 in 50 or over frequently confirmed me in the opinion that the case was one of bacillary dysentery, though the examination of the stool was negative. On the other hand, on two occasions the "Y" bacillus was isolated when the serum reaction was 1 in 20 only, and in one instance Shiga's bacillus was obtained when the serum of the patient did not agglutinate the organism even in that low dilution. The strains isolated conformed with the usual sugar reactions, etc., and were tested against specific agglutinating serums of high titre. In what position is one to place inagglutinable strains? In one case the serum of the patient produced clumping of his own strain in the dilution of 1 in 20 when with specific "Y" serum no agglutination was observed in the same dilution.

### Dysentery Carriers.

Two convalescent patients, transferred, were admitted, showing no signs or symptoms. Each had been on full diet for some days and the stools were formed and natural. The Widal reaction was positive 1 in 50 Shiga. In the course of the routine bacteriological examination before discharge Shiga's bacillus was isolated, in one from the first specimen sent, in the other from the second. From three subsequent samples, taken after the administration of a saline purge, no bacillus was isolated in either case and the individuals were discharged.

I beg to express my sincere thanks to Captains C. W. Smith, R.A.M.C., and J. D. Graham Stewart, R.A.M.C., for kindly assistance.

## THE IMPORTANCE OF THE EARLY PROPHYLACTIC INJECTION OF ANTITETANIC SERUM IN "TRENCH FOOT."

BY

SURGEON-GENERAL SIR DAVID BRUCE, C.B., F.R.S.

Cases of tetanus following on "trench foot" have lately been numerous. On account of the hurt not being of the nature of an ordinary gunshot or shell wound they have not, until quite lately, received the usual prophylactic dose of antitetanic serum at the front. For the same reason, it may be supposed, they have not received the later prophylactic doses which have been so strongly recommended by the Committee of the War Office for the Study of Tetanus in their memorandum published in the BRITISH MEDICAL JOURNAL on November 11th, 1916.

During the last few weeks fifteen cases of tetanus caused by "trench foot" have been reported, but full reports, giving the result, have only been received in eight. The following table gives the outstanding features of these eight cases. A prophylactic injection was not given in any of them.

| No. | Incubation. | Duration of Disease. | Died. | Recovered. |
|---|---|---|---|---|
| 1 | 12 days | 2 days | + | |
| 2 | 12 ,, | | | + |
| 3 | 24 ,, | 2 ,, | + | |
| 4 | ? | 2 ,, | + | |
| 5 | 15 days | 1 ,, | + | |
| 6 | ? | 1 ,, | + | |
| 7 | 16 days | | | + |
| 8 | 14 ,, | 5 ,, | + | |

From this table it will be seen that of the eight cases only two recovered, and the average duration of the disease was only 2.5 days. This is a return to the picture of tetanus familiar before prophylactic injections were introduced. The disease wastes no time in local manifestations, but bursts out as generalized tetanus and runs its acute and fatal course in twenty-four to forty-eight hours.

It is to be hoped that no medical officer in charge of a case of "trench foot" will hesitate for a moment in giving a prophylactic injection of antitetanic serum, and repeat the same at intervals of seven days until the wounds are clean. If something is not done speedily, these cases of tetanus following on "trench foot" will run up in a most disastrous way the rate of mortality in tetanus, which every one, by the use of prophylactic and early therapeutic antitetanic serum, is trying to lower.

# Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

### AN OVARIAN CYST COMMUNICATING BY A VALVULAR CANAL WITH THE FALLOPIAN TUBE.

On August 26th I removed intact, from a patient aged 34, a small cystic tumour, firmly and extensively adherent in the pelvis. The Fallopian tube, like a pyriform pod, dilated at its fimbriated end to the size of the index finger, was seen coursing the surface of the ovarian cyst. The tube looked like an ordinary hydrosalpinx, and on compressing it clear limpid fluid flowed from its cut uterine end. It was then observed that the ovarian cyst was gradually decreasing in size and that the Fallopian tube remained semi-distended. The ovarian cyst was then opened, and at a spot about two inches from the uterine end of the Fallopian tube there was observed in the cyst wall a crescentic fold, guarding, as it were, a canal of about an inch in length, which opened directly into the tube. The fluid in the cyst presented exactly the same appearance as the fluid which flowed at first from the tube.

I have never before seen a tubo-ovarian tumour of this character. I have heard that ovarian or tubal cysts have been known to empty themselves through the uterus. In the case here described there seems to be no reason apparently why fluid did not escape from the tumour by the uterus, for the uterine end of the Fallopian tube seemed to be quite normal and allowed the fluid to pass, in, it is true, an extremely small stream.

London, W. JAMES OLIVER, M.D., F.R.S.Edin.

### THE TREATMENT OF CANCER BY CUPRASE.

A WOMAN not long past the menopause had four years previously undergone a radical operation for carcinoma of the right breast, which had evidently been very extensive. There was no local recurrence either in the scar or on the chest wall, but there was some involvement of the mediastinum, causing pressure both on the trachea and oesophagus, and also implicating the vagus and sympathetic nerves on the right side; some enlarged glands were to be felt above the clavicle on both sides. *X* rays had been tried for a time, but without apparent benefit, and the patient had become too weak to undergo the exertion of transport to the radiologist. The prognosis was, of course, hopeless, and alleviation of suffering appeared to be the utmost that medical science or art could offer.

It was at this stage that cuprase suggested itself, if the advertisements and reports supplied by its makers were to be credited, as worthy of trial; at least, according to the reports, and especially to Dr. Herschell's eulogistic statements, it could do no harm. The matter was explained to the patient and her relatives, and although, of course, I would promise nothing in the way of cure, they decided it should be tried. Accordingly I obtained a box of eight ampoules (price 25s.), no less amount being supplied, and no "trial sample" being permitted. I injected the contents of one ampoule according to directions. Not only was the injection immediately painful, but there was very marked local reaction—pain, redness, heat, and swelling—which persisted for nearly a week and caused the patient a large amount of suffering. Not only was there marked local pain, but the patient's general condition was much

worse in every way—there was aggravated sickness with vomiting of greenish bile-stained fluid, no food of any sort could be retained, there was generalized pain, insomnia, weakness; the patient could not even sit up in bed, though previously she had been able to sit out of bed a little, and go to the bathroom each morning. The throat symptoms—hoarseness, dysphagia, and slight stridor—were more marked, and even attempts to swallow a mouthful of water caused excruciating pain. Unfortunately this marked worsening of the patient's condition persisted; she steadily sank, and died about two weeks after the injection of cuprase. Naturally the injection was not repeated. My impression was that the patient, although of course in a hopeless condition, would probably have lasted two or three months.

I think it only right to record this experience, which I do without any comments. No one would have been more delighted than I had the result been otherwise. I would only say to those who may be induced by favourable reports to try this remedy in desperate cases to consider also the other side of the picture.

Bowdon. P. R. COOPER, M.D., F.R.C.S.

# Reviews.

## "ORGANIC TO HUMAN."

DR. MAUDSLEY, in the preface to his new book, alludes to a dictum of Montaigne on the unfitness of old age for the business of writing or any other business, and remarks that he may be open to Montaigne's censure, for this work was undertaken to occupy the time and ease the burden of the dreary decline from three to four score years. But the author has proved that Montaigne's dictum is too absolute, for it certainly does not apply to Dr. Maudsley's psychological and sociological studies and reflections. The book *Organic to Human*[1] was not born to-day or yesterday; it is the crystallized expression of thoughts and reflections more or less in flux during a lifetime of long and varied experience of human character, individual and collective. The author is a physician, philosopher, and philanthropist endowed with a rare natural intelligence, developed and nourished by study and analysis of the great masters of philosophy. Moreover, the work shows that Dr. Maudsley has read much and well, and thus kept abreast of the times in knowledge of the general principles and facts of the biological sciences and their application to the complete understanding of human psychology; consequently he is able to adduce the most cogent arguments in support of the position he has always maintained of the inseparability of body and mind. The work exhibits throughout a wide knowledge of the classics of literature, which is apparent not only by short quotations but also by numerous references, but he has wisely refrained from long quotations in the text which might have broken the thread of his arguments and reflections. Had the work appeared when it was ready for the press and before the outbreak of war, "when (as the author says) exultant self-adulation was at its height," the book might have been denounced for its materialistic pessimism and sarcastic references to modern ethics and culture. A criticism in the *Times*, which referred to the underlying satire as reminiscent of Dean Swift, is surely a high compliment to Dr. Maudsley. In an essay on literature and life A. C. Benson concludes with a saying of Dr. Johnson's—"A book should show me how to enjoy life or how to endure it." This work of Maudsley's, if it does not show how to enjoy life, does show how to endure it; for its teaching all through is that life does not contradict itself, but that the workings of organic nature, whether they appear to our minds right or wrong, delightful or dreadful, fit into each other in a marvellous way.

The discussion of the theme of the book begins with the thesis that in organic nature "there are gradational ascents of consciousness from the faintest sensible glimmer in low organisms to its full brightness in the highest organism." The hypothesis of a universal mind more subtile than the universal ether which enters into the individual brain to act upon it, and through it on every organ of the body, is criticized, and it is remarked that "mind was not invented by man, nor especially for him."

[1] *Organic to Human.* By H. Maudsley, M.D. London: Macmillan and Co., Limited. 1916. (12s. net.)

Every function of the metaphysical entity into which the word has been translated exists in animal germ and rudiment and sometimes in explicit function. Man's distinction is to combine in his mind qualities which are variously scattered rudimentally in the lower animals and to be more conscious directly of their superior workings in himself and inferentially in others like him.

There is not a part of his body which has not participation in the constitution of consciousness and does not by its changes affect fluctuating consciousness.

The author then points out that a change in the quality of the blood may produce an altered state of consciousness, causing melancholia. The appetites and desires essential to self-preservation and propagation are common to the lower as well as the higher organisms, and the highest feelings and consequent conduct of human beings are rooted in the desires incidental to the organic needs. Recent events have made manifest the fact that highest feeling and control of civilized races is but a thin veneer, which, when stripped off by war, reveals the primitive emotions and animal passions in all their nakedness.

One chapter which cannot fail to interest the medical reader is that on the fundamental instincts and social atonement; its keynote is expressed in the following passage:

> The work of social development is to humanize and as far as possible moralize the two fundamental instincts or needs of human nature, from which the primary passions and secondary emotions spring and evolve—namely, hunger and lust—the one urging to maintenance and the other to reproduction of self. Not, certainly, to eradicate them, which would be folly, but to spiritualize them, which is their anticipated end.

It is true, as the author says, "that there is a stubborn disinclination to look the reproductive instinct frankly in the face, and to deal with its functions in a natural way; a scrupulous reserve and reticence concerning it being enjoined and practised, as though it were something of a moral degradation, whereas it is neither moral nor immoral, but simply animal and non-moral."

The author's well-known views regarding genius and insanity are stated, and his criticism of eugenics and Galton's investigations regarding hereditary genius, as illustrated by the descendants of great judges, is in the following scathing terms:

> That the child of a judge is five or fifteen hundred times more likely to inherit mental capacity than the child of a peasant, as the eugenic enthusiast has said, is an assertion which, plausible as it looks, is certainly not warranted by observation and could not be proved by experiment.

Chance, opportunity, and imitation play a great part in the foundation of success.

There is heredity of influence as well as heredity of capacity.

The author discusses in a trenchant manner the instinct of propagation and restrictions of childbirth, and he asserts:

> That mental states physiologically affect and are affected by the delicate and complicated biochemical processes upon which all life depends is not hard to conceive now, as once it was when mind reigned as a separate and supreme entity in its realm, inhabiting and using the body, but owing no evolutional homage to it.

In a chapter on the microbe and man, he says of microbes, even when pathogenic: "Certain it is that in weakened life, its lawful prey, the microbe will always find its sphere of opportune and useful function." Speaking of war and disease, he says: "To do away with these natural processes might possibly be to do great disservice to the human race."

In the second part of his book Dr. Maudsley first deals with the current of social feeling, and this discussion is particularly interesting, seeing that after the war great changes may be anticipated. He says:

> That which in feudal times seemed the natural, necessary, and immutable order of things—that the few should be privileged and rule in luxury and the many toil in subjection and poverty, content to honour and obey their pastors and masters in the humble station in which it pleased Providence to place them—is beginning to excite wonder that the great majority so long and patiently endured it.

There is a valuable chapter on the practical morality of a nation, in which are discussed many social evils arising from specialization of industries and frauds—tacitly sanctioned frauds, legal complexities and delays, the hired

advocate, petty crimes, newspapers and their advertisements, hypocrisy and self-laudation, extinct nations and Western civilization, British hypocrisy, sexual hypocrisy, and acute mania and adolescent insanity. In connexion with the disease last named Dr. Maudsley says:

> Yet it is certain that a more open dealing with a natural function would dispel much hurtful ignorance, do away with a great deal of enforced hypocrisy, and prevent an incalculable amount of secret and anxious suffering at the critical period of adolescence, when the reproductive instinct enters into the conscious mental life, disquiets it by its obscure stirrings, profoundly revolutionizes it as it develops, wrecks it sometimes in so-called "adolescent insanity"—a signal instance in that case of the occasional sad consequences of one class of approved conventional reticence.

Dr. Maudsley evidently believes in the possibility of transmission of acquired characters to some extent, for he says that although education cannot change a character, and can only educe into being and direct innate potentialities, "it is still possible that its persistent operation in individual nature from generation to generation through prolonged time may occasion and implant *new germinal* potentialities."

Speaking of the pessimistic and optimistic temperaments, he states: "Certainly it is not by the temperaments in which reason rules and pushes to its logical extreme, but by the optimistic temperaments in which the unreflective feeling is joyous and active that the future progress of the race can be effected."

In the last chapter, which deals with Mind and the Universe, the dualistic theory is shown to be wanting: "How make a line of division," the author asks, "between the lowest mental and the highest bodily functions, between simple reflex actions and conscious reflection, which is just reflex action through circuitous intermental channels at a higher remove in the supreme cerebral layers?" In another place he writes:

> To separate essentially the components of mental life in brain as matter and the mind and, having made the absolute separation, to declare mental functions to be the independent function of the latter, is gratuitously metaphysical assumption directly opposed to scientific observation, which would, if true, render a positive mental science impossible.

"Materialism," he says, "neither can nor ought to be got rid of," but the materialistic doctrine, as in the past so in the future, will probably only satisfy the few; indeed Dr. Maudsley's own words support this conclusion when he says:

> For as much as pure reason purged of feeling and applied to the facts of life is dispiriting, the yearning hope is for a Supreme Spiritual Reality, infinitely wise, good, and powerful, with which the human mind can come into communion.
>
> Always, therefore, have they believed by deep logic of feeling according to custom of time and place that which was rationally incredible.

We make no apology for expressing the views of Dr Maudsley so frequently in his own words, for it is generally recognized that no member of the medical profession has a greater mastery of the English language nor a greater lucidity of expression. We can heartily commend this latest work of Dr. Maudsley to the careful study of all who are interested in psychology and sociology.

## OCCUPATIONAL DISEASES.

A large and well documented volume on *Diseases of Occupation and Vocational Hygiene*[2] by many writers has recently been published in America. For the most part it has been written by American authorities, and largely with a view to the special needs of that continent, although it contains chapters by Professor Devoto of Milan, Professor Teleky of Vienna, Dr. T. M. Legge of the Home Office, and Sir Thomas Oliver. The book is divided into three main parts.

The first part, forming nearly half the text, deals with the specific and systemic diseases of occupation, their symptoms and treatment. The second part, some 350 pages in length, deals with the causation and prevention of occupational diseases and accidents in a great variety of trades. This portion of the volume is meant to appeal to a wide circle of readers, not to medical men and lawyers only. The third part is written for the benefit of those who are called on to investigate the relations of occupation to disability or disease in factories and elsewhere. It gives an account of the Milan clinic for occupational diseases, of certain statistical studies, and of the legislation and governmental study required for the prevention of occupational diseases in general.

The book is naturally unequal in its treatment of the many topics with which it deals, but is on the whole very well written, full of facts, and suggestive of the precautions required to be taken in the various dangerous trades it discusses. It is well illustrated and has good indexes.

[2] *Diseases of Occupation and Vocational Hygiene.* Edited by G. M. Kober, M.D., Belmont, Mass., and W. C. Hanson, M.D., Belmont, Mass. Philadelphia: P. Blakiston's Son and Co. 1916. (Roy. 8vo, pp. 918. Illustrated.)

## NOTES ON BOOKS.

THE *Catalogue of the Collection of Skulls and Teeth in the Odontological Museum of the University of Birmingham*,[3] illustrated by a number of photographic reproductions, gives a list of the two thousand specimens shown, and exhibits the thoroughness with which the subject has been illuminated by the care of those responsible for the arrangement of this very large collection. It displays the evolution of the dental tissues, and incidentally records the evolution of vertebrate life throughout geological time by means of the teeth. Fossils, fishes, reptiles, and mammals have all contributed to the exhibits shown, and the specimens are arranged in their natural orders and families. There are also examples of mechanical dentistry shown. In so highly specialized a museum as this the student would feel grateful for a *catalogue raisonné* to tell him what he may see in each exhibit; this, however, no doubt is furnished by the labels on the specimens, and to have attempted it would have distended the volume now before us to impracticable dimensions. The University of Birmingham is to be congratulated upon the possession of so valuable and instructive a series of odontological exhibits.

The third volume (twenty-sixth series) of *International Clinics*[4] contains a number of interesting papers, including three on the *x*-ray diagnosis of pulmonary tuberculosis and enlargement of the lymphatic glands at the roots of the lungs, a subject of great interest to all physicians. These papers point out the difficulties in the interpretation of the pictures obtained, and the practical impossibility of drawing from them alone any firm conclusions upon which treatment may be based. A paper by Dr. F. Parkes Weber on certain rare forms of herpes zoster, in which the eruption may be either generalized or associated with muscular paralysis, contains an account of three cases recently observed by himself, and a very thorough analysis of the scattered literature of the subject. The connexion of this eruption with the administration of arsenic is also considered.

[3] *Catalogue of the Collection of Skulls and Teeth in the Odontological Museum of the University of Birmingham.* Compiled by J. Humphreys, M.D.S. Published by the Council of the University. Birmingham: Cornish Brothers. 1916. (Fcap. 4to, pp. 64.; illustrated.)

[4] *International Clinics.* Vol. III, Twenty-sixth Series, 1916. Edited by H. R. M. Landis, M.D. Philadelphia. Philadelphia and London: J. B. Lippincott Co. 1916. (Med 8vo, pp. 318, illustrated. 35s. net four quarterly volumes.)

## MEDICINAL AND DIETETIC PREPARATIONS.

*Products of the Merieux Institute, Lyons.*

THE Anglo-French Drug Company have introduced into this country certain biological products made by M. Merieux, formerly of the Pasteur Institute, at the institute he has established at Lyons. Antidiphtherial, antitetanic, and antistreptococcus serums are supplied, and a special feature is the manner in which they are put up. The dried serum is placed in a short test tube, which is enclosed in a small phial. The phial contains 9 c.cm. of carbolized water, and a single india-rubber cork closes both phial and tube. When required for use the cork is withdrawn and the contents of the test tube dissolved in the carbolized water. This system is designed to ensure the serum keeping indefinitely, so that it may be relied upon as being aseptic, active, and of full potency when required. The device is ingenious and appears likely to prove efficient. The Merieux Institute also makes an antidiphtherial preparation for topical application, for suspicious sore throat or coryza, and for use in convalescence from diphtheria. For the same purpose it also makes antidiphtherial tablets, which it is believed may be of use in carriers. It also makes prophylactic antitetanic dusting powder for application to wounds.

British Medical Journal.

SATURDAY, JANUARY 13TH, 1917.

## THE MAUDSLEY HOSPITAL.

ON another page there will be found a review of the work, *Organic to Human*, by Dr. Henry Maudsley, the distinguished alienist physician and philosopher, who early in his professional career and subsequently attained a wide celebrity at home and abroad by his contributions to medico-psychological science. Among his previous works most widely read are *Body and Mind*, *Crime and Responsibility*, *Mental Physiology*, and *Pathology of Mind*. This latest work, now completed in the author's eightieth year, shows that he still possesses the keen, vigorous intellect of a great philosopher and master of the English language.

Dr. Maudsley will be remembered in years to come not only for his literary productions concerning the human mind in health and disease, but for his practical and generous sympathy with the mentally afflicted, to whom he had so long and so successfully ministered. Recognizing the importance of the study and early treatment of mental disease, he offered eight years ago to give a large part of his fortune to the London County Council if it would build and keep up a hospital for the study and treatment of early mental disorders with a view to preventing chronic disease necessitating internment in a county asylum. The offer was accepted, but only after much obstruction and delay was the present admirable site at Denmark Hill obtained. The Council, having built the hospital, wisely named it after the generous donor. With the consent of Dr. Maudsley, the Council permitted it to become a section of the 4th London General Base Hospital; at present it is adapted to the treatment of 175 soldiers and eighteen officers suffering with "shell shock," neurasthenia, or acute mental disorder. The Pathological Laboratory at Claybury has been transferred to the Maudsley Hospital, and the director, Major F. W. Mott, continues to carry on the pathological work of the London County Asylums while at the same time he takes an active part in the medical work and general management of the hospital. When the King and Queen recently visited the Maudsley Hospital they expressed themselves as well pleased with the accommodation and general arrangements for the treatment and comfort of the soldiers.

A large hut is now being constructed in the grounds to be equipped for carpentry, cabinet-making, and metal work, under a capable instructor, as a means of treatment by useful diversion of the mind of convalescent cases of shell shock; the whole, together with upkeep, has been generously provided by Lady Henry Bentinck.

After the war is over the hospital will be taken over by the London County Council, and the policy proposed when the gift of £30,000 was accepted is indicated in the nineteenth annual report of the Asylums Committee, where it is said that "the most forcible argument for the provision of the hospital from the point of view of the patient lies, as it seems to us, in the fact that it will provide opportunity for individual treatment and close personal attention, which are all-important in the early stages of mental disorder." The asylum population consists to a large extent of chronic cases, which need detention rather than treatment. The report went on: "But in the proposed hospital only those patients will be detained for whom treatment is necessary, and who respond to it. Hence there will be in the hospital an entirely different atmosphere to that of an asylum, an atmosphere, as Dr. Maudsley has expressed it, of sanity as opposed to insanity. The hospital will be essentially an institution for providing treatment, the direct object of which will be the care and discharge of the patient."

After referring to the advantages of having such a hospital in the London area, the report pointed out the public utility of an out-patient department where persons in the incipient stages of mental disorder can be taken for advice and treatment. "We are hopeful that this provision, by the prevention of insanity, will afford relief to the rates."

We are pleased to note the importance which the report attaches to the value of the hospital and pathological department as a centre of education and research. The expectation is expressed that the hospital will prove of great value in the dissemination of knowledge of mental diseases, and in the provision of systematic instruction in methods of treatment. "At present the study of insanity is to a great extent an isolated branch of medical research, and the general practitioner knows little of what is considered to be the province of the alienist and neurologist. This is not to the advantage of the public, and if this unfortunate isolation were removed and a close acquaintance with nervous and mental diseases were more common, many cases of incipient insanity which now find their way ultimately to the workhouse and the asylum might be recognized at an earlier and more hopeful stage, and by preventive as well as remedial measures might be so dealt with as never to need institutional confinement." "A hospital in close touch with the university, the general hospitals and their medical schools, and with a central pathological laboratory should," the report continues, "do a great deal to bring this about. The teaching of the hospital should also increase the supply of trained medical officers available for service in the asylums." We entirely agree with the principles set forth, and the whole profession, and we are sure the public generally, will endorse them.

The last paragraph of the report places on record the appreciation of the generous spirit in which Dr. Maudsley's gift was made, and we are convinced that the gift and acceptance by the London County Council will confer a great and lasting benefit upon a class of sufferers the effectual assistance of whom has hitherto been the most difficult of social problems. We trust that Dr. Maudsley may yet live many years to see the hospital and pathological laboratory carrying on the beneficent work which has been made possible by his philanthropic act.

## THE INCOMPLETE CURE OF THE CONSUMPTIVE.

### II.

THE two main objects upon which public expenditure would be justified are the protection of the public from extension of the disease and the restoration to health and working capacity of those patients for whom there may be a reasonable prospect of cure. Both these points would seem to be essentially the concern of the community. In the case of the patient with confirmed disease of the lung the position is somewhat different. He may or may not be a source of danger to the community, but he is certainly not

likely to contribute his share as a worker to the public weal.

If we consider, first, the case of the presumably curable case, we find that the universal testimony of experts goes to prove that the prospect of arrest or so-called cure of the disease can only reasonably be entertained in cases in which the disease has been detected and treated in its earliest stages. Beyond a certain point the prospect rapidly diminishes, and the best that can be obtained can only be classed as improvement, with constant liability to relapse. In the one case the individual may become a useful member of the community while in the other he is more likely to become a charge upon it. But at the present time both classes of case are being treated in sanatoriums. Money is deliberately being spent in patching up a permanently damaged life even more lavishly than upon the restoration to full vigour of the life that is only temporarily impaired.

For proof of this point it is necessary only to examine the statistics of county and other sanatoriums, which afford abundant evidence of the fact that cases in all stages have been under treatment and that beds which, from the economic point of view, should be strictly reserved for early cases have been occupied for prolonged periods by second and third stage cases. Hence it is not difficult to explain the lack of accommodation for early cases under the Insurance Act, which, in spite of the glowing promises held out by its promoters, has not as yet succeeded in checking the progress of consumption.

Again, among the recognized defects of the present system comes the case of the advanced consumptive. Our present knowledge enables us to say with approximate certainty whether any tuberculous person is or is not infective. For lack of any sort of public control a person discharging bacilli is at liberty to mix freely in the community, coughing, if not actually spitting, in crowded places of entertainment, in public conveyances and in churches, his handkerchiefs and body linen sent to laundry without any caution, and his home surroundings arranged with a view to personal warmth and comfort, regardless of the risk to other members of the household.

These three cardinal defects of method—the return of the consumptive to his overcrowded home, the occupation of beds in sanatoriums by unsuitable cases, and the total lack of any sort of control over the main source of infection—are perfectly well recognized by all experts who have written reports, and must be equally well known to the authorities for whose information their reports have been prepared.

It is time that a serious effort should be made to set these matters right. It is futile to hope for eradication of tuberculosis while such obvious errors are persisted in.

During the last two years a very striking object lesson has been afforded as to the invigorating effects of open-air life upon the many thousands of young men, some of them already infected with tubercle, who have so rapidly exchanged the sallow and anaemic complexion of the city clerk for the ruddy tan of the hardy soldier. The vast areas now covered with hutments in which these changes have been wrought will some day be no longer needed by military occupants. They are for the most part situated in ideal positions for the fullest enjoyment of uncontaminated fresh air, but at the same time within easy access of supplies and communications. The means that have been so effectual in maintaining the health of the soldier are thus ready at hand for the housing of the consumptive, when the military need shall have passed away. The restoration of the incipient consumptive to working capacity is essentially the concern of the municipalities and the State and not a matter of charity. Hence the strictest limitation would have to be applied, and no case admitted to such State-aided establishments until it could reasonably be assumed that the activity of the disease had been arrested, and that the patient would be in a position to return to remunerative work.

The case of the confirmed consumptive stands on a different footing. Although he may derive marked benefit from sanatorium treatment, his capacity for work is usually impaired, and he is liable at any time to suffer relapse. In such a case, the aid of public charity may reasonably be invoked. The experience of chest hospitals goes to prove that a very considerable degree of relief can be afforded to cases in the second stage, and that the average period of immunity from relapse or recrudescence is very much the same after discharge from a hospital as from a sanatorium. In any case the future usefulness of such cases must be a very uncertain quantity.

Turning now to the question of third stage cases, the need for the interference of the State or municipalities again becomes obvious. In the great majority of instances such cases are a danger to the community. They are direct distributors of the germs of the disease. Every educated person is now aware of the fact, and conscientious patients endeavour to render themselves less harmful by careful disposal of their sputum. But among all classes there are a vast number of persons who refuse to brand themselves by the use of the spitting cup and who are subject to no sort of control as to their mode of life or their social surroundings.

The segregation of such persons from the close intimacy of family life is an imperative necessity if the hopes of eradication of tubercle are ever to be realized. Such segregation can only be carried out by a central authority, and the necessary powers are not likely to be obtained until the lamentable waste of effort and of money which prevails at the present time is recognized and acknowledged by those in responsible office.

Under the present system of dealing with tuberculosis the sanatoriums, which should be reserved wholly and solely for early cases, are allowed to admit cases in all stages, as shown by their published statistics.

Returns published by Insurance Act authorities make it evident that more than half the number of cases recommended for sanatorium treatment cannot be accommodated. Assuming that only first stage cases are so recommended, it is probable that most of them would find the needed accommodation if the beds now occupied in sanatoriums by second and third stage cases were set free. In like manner there are in most chest hospitals a considerable number of incipient cases which would be far better treated in sanatoriums, and in turn their beds in the hospitals would be available for the second stage cases from the sanatoriums. Co-ordination is clearly called for, and in order to obtain it there must needs be a central controlling authority.

The introduction of tuberculosis dispensaries has done something in this direction by providing local clearing-houses where individual cases can be dealt with on the lines best suited to their needs, but their powers for good are very limited. They can only advise, and have no power to insist.

Desire for individual freedom has been allowed to override the common welfare, and it is time that the interests of the community should be more fully

considered, even if it involves a certain amount of restraint upon the individual. The perpetuation of such obvious evils as the free distribution of tubercle bacilli, the return of the consumptive to the very same conditions in which his disease developed, and finally the waste of accommodation in hospitals and sanatoriums respectively, should now be vigorously checked.

"If these things are preventable, why are they not prevented?"

## THE PATHOLOGY OF GAS GANGRENE.

THE text of the address given by Sir Almroth Wright at a meeting of the Royal Society of Medicine on December 18th has become available through its publication in the *Lancet* of January 6th. Its scope is indicated by its full title—"On the conditions which govern the growth of the bacillus of 'gas gangrene' in artificial culture media, in the blood fluid *in vitro*, and in the dead and living organism." Dealing with the conditions which promote or inhibit the growth of the gas gangrene bacillus of Welch, he controverted the doctrine that the growth of that bacillus pivots upon the presence or absence of oxygen. He pointed out that Tarozzi discovered that when pieces of animal tissue were added to bouillon, cultures of anaërobes could be obtained in open tubes, and that Ori and Wrzosek showed that the same result could be obtained with pieces of either raw or autoclaved potato, and also with other vegetable tissues. Cultures of the bacillus of Welch in the open in bouillon containing a piece of potato grow rapidly and vigorously, with production of gas. So far he, and Professor Dreyer and Dr. Fleming, who have been associated with him in the investigation, have not obtained any anaërobe from a wound which cannot by proper devices be made to grow freely in open tubes. A hypothesis put forward is that the potato furnishes a reducing substance which gives the culture a start, and Sir Almroth Wright finds evidence in favour of it, but the aspect of the matter to which he more particularly directs attention is that full consideration of all the facts renders it necessary to abandon the traditionary view that the growth of anaërobes pivots upon the presence or absence of oxygen.

Sir Almroth Wright recalled the fact that seventeen years ago, in a study of the distribution of agglutinins and bactericidal substances in cases of typhoid and Malta fever, he had called attention to the circumstance that microbes which, if carried into the blood stream would have been killed or impeded in their growth by the bacteriotropic powers of the blood, succeeded in maintaining themselves alive in the internal organs, collected together in what he then called "niduses of lowered bacteriotropic pressure." Experiments were made with the bacillus of Welch to ascertain whether concentration of the infection came into account in connexion also with growth upon artificial media. The earliest results suggested an affirmative answer. Other experiments were made by Dr. Alexander Fleming, by introducing various inorganic substances into open culture tubes of the bacillus of Welch; the substances used were asbestos, cotton-wool, platinum black, and a rust-covered nail; a fifth experiment was to obtain a culture by introducing into the open bouillon a hair-fine capillary tube filled with a minute quantum of a diluted culture. In each case a turbid and vigorous gas-producing culture was obtained. It appeared, therefore, that a common factor in growth of the bacillus in an open tube was almost certainly a mechanical factor, which seemed to be the provision of some hole or cranny to serve as a nidus in which the microbe could get a start by concentrating its chemical effort at first upon a fractional portion of the culture medium.

When these test tube experiments were compared with the clinical facts it was seen that the supervention of gangrene was very frequently correlated with the leaving of infected portions of clothing in the wounds—that is, the same mechanical factor as was operative in the test tube experiment seemed to come into account also in the body. Captain d'Este Emery, working with Sir Almroth Wright at Boulogne, showed that the bactericidal action of the serum was the factor which more than any other came into account in the culture of the bacillus of Welch in the blood fluids, which were at an advantage when the microbes were dispersed and at a disadvantage when they were collected together and afforded an opportunity of making a combined attack. Experiments showed that the more rapidly the concentration of the implanted microbes was effected, and the shorter their exposure to the full bactericidal action of the serum, and the less the bactericidal potency of the serum, the greater became the chance that an implanted microbe would get a start and go on to produce a generalized infection. When the bacillus of Welch grows freely in serum it reduces the antitryptic power of the medium, and it elaborates acid. The antitryptic power may be regarded as the guardian of the blood inhibiting the digestive processes which must precede the conversion of the native albumins of the blood into congenial pabulum for microbes.

Experiments further showed that the addition of acid converted the serum into an eminently favourable medium for the bacillus of Welch, quite apart from any reduction of the antitryptic power, and that the converse also held true, the reduction of antitryptic power, quite apart from any addition of acid, converting the serum into a very favourable culture medium for the micro-organisms. The combination of the two factors accounted for the sudden rapid growth of the bacillus—"the avalanche phenomenon."

Welch stated in his first paper that if a small volume of culture were introduced into the blood stream of a rabbit, and the rabbit killed and put into an incubator, the whole organism was rapidly invaded, gas being generated in the blood, the condition known as "foaming liver" produced, and the peritoneal cavity, after six or more hours, blown out with gas. This showed that the chemical changes which occurred spontaneously in the blood and liver after death transformed the blood fluids into a medium eminently favourable for the cultivation of the bacillus.

In studying the conditions which govern the growth of the bacillus of Welch in the living organism, it was found that the infection produced as a rule both a local and a general acidosis, but the acidosis in the local lesions was more pronounced than in the general blood stream. If the acidaemia became very pronounced the animal succumbed; if there was none it was never seriously ill. In all cases, without exception, the antitryptic power of the blood rose very steeply where the animal dealt successfully with the infection and very little where it made only a feeble fight. Observations on man showed that every microbic infection of wounds was followed by a rise in the antitryptic power, greater or less according to the degree of the severity of the infection; this constituted a non-specific immunizing response. When comparisons were made between the antitryptic power in patients heavily infected, but not suffering from gas

gangrene, and those suffering from that infection, no difference was found, but while the blood alkalinity of the heavily infected patients corresponded exactly with the normal, in a patient with pronounced gas gangrene the blood alkalinity was very markedly reduced, so that it appeared that the toxaemia of gas gangrene was an acidaemia. Measurements of the antitryptic power and alkalinity of the circulating blood and of the lymph from the infected tissues in cases of gas gangrene infection in man showed that the progress of the condition was parallel to that observed in experiments *in vitro* and in animals. There was, to begin with, a high antitryptic response in the circulating blood, and reduced or abolished antitryptic power in the infected tissues or effusions, together with diminished alkalinity in the infected tissues or effusions. There was not only a local acidosis, but an acidaemia, the latter being found when the infection culminated in that gas gangrene toxaemia which was ushered in by vomiting and then showed itself in collapse, with rapid respiration, ashy-grey pallor, feeble and then impalpable pulse, the body becoming stone-cold before death, first the hands and feet, then the whole limbs, finally the nose, ears, and forehead, the patient remaining with clear intellect and without suffering to the last.

Sir Almroth Wright considers that, pending further investigations, it may perhaps be assumed that the production of acid proceeds, not only in the infected tissues in relation with the wound, but also in the liver and other internal organs to which the bacillus of Welch has been conveyed, its metastatic growth being favoured as soon as the alkalinity of the blood begins to be reduced by the influx of lymph charged with acid in the infected tissues. This conclusion has a direct bearing on the therapeutic administration of alkalis in gas gangrene. It gave markedly favourable results in only two cases out of six recorded by Sir Almroth Wright, but in these two the effect was dramatic. In the one case rapid improvement followed the injection of 20 grams of sodium lactate in a patient in a condition of acute toxaemia; in the other a patient in profound toxaemia who received 10 grams of sodium bicarbonate intravenously, improved quickly, and made a good recovery. In the other cases no effect was produced, and it must be left to future experiments to determine whether better results can be obtained by earlier intravenous injection of alkali, and whether the local evolution of gas gangrene can be arrested by the injection into the tissues, or, as the case may be, into an infected haemothorax, of alkali or of an alkalinized strongly antitryptic serum, remembering that such a serum can practically always be obtained, either from the patient himself or from any other heavily infected patient.

## COLLECTION AND EXHIBITION OF WAR SPECIMENS.

In March, 1915, the War Office constituted a committee, under the presidency of Sir Alfred Keogh, Director-General A.M.S., to compile a medical history of the war. Dr. W. Morley Fletcher was appointed secretary of the committee. One of its objects is to collect from all military hospitals such specimens as will aid in the understanding and illustration of the nature of the wounds, injuries, and diseases suffered by soldiers during the present war. At the beginning of May, 1915, Dr. Morley Fletcher, on behalf of the committee, approached the Council of the Royal College of Surgeons of England with a view of obtaining its assistance in the collection and preservation of such specimens. The original intention was to make the Royal Army Medical College, Millbank, the centre for collection, but this was found impracticable owing to the staff being engaged on more urgent work. The Council of the Royal College of Surgeons, therefore, decided to place the workrooms and storerooms of the museum at the disposal of the Army Medical Service, and to preserve, classify, and register all specimens forwarded from military hospitals for the use and disposal of the Medical History of the War Committee. The War Office issued a memorandum and circular requesting medical officers attached to military hospitals to forward all specimens which might prove instructive, from either a clinical or a pathological point of view, for temporary preservation in the museum of the Royal College of Surgeons. At the beginning of 1916 Major T. R. Elliott, R.A.M.C., F.R.S., was placed in charge of the collection and transmission of specimens from the pathological laboratories attached to base hospitals in France. He obtained the willing co-operation of the pathologists attached to these hospitals, and the specimens received have increased in number and improved in quality, many being manifestly of great value to both surgeons and pathologists. By the end of 1916 over 1,100 specimens had been received. Under the direction of Professor Arthur Keith, F.R.S., the conservator of the College museum, these have been carefully stored, a card list has been prepared, and any histories furnished by the senders appended. The War Office gave an initial sum of £100 to defray the cost of jars and preservatives, and when that sum was exhausted a second sum of £100 was granted. It has now been decided to select and prepare from this material a national collection of pathological and clinical interest, such as may be of immediate use, and also serve in the future for the study of gunshot injuries and diseases occurring in the war. The selection from the crude material, which naturally contains a very large number of duplicates, has been entrusted to Professor S. G. Shattock, F.R.C.S., the pathological curator of the Royal College of Surgeons, with the assistance of Mr. C. F. Beadles, M.R.C.S., the pathological assistant. In order that the more immediate clinical interest attaching to the material may not be overlooked, Mr. Raymond Johnson has consented to give his assistance. As is inevitable under present conditions, delay in the supply of glass and other material for the adequate display of the collection will somewhat hinder its progress, but the large amount of careful scientific work which has been continuously carried out both in this country and in British laboratories abroad since the commencement of the war, will render any delay due to those causes of less immediate consequence than might otherwise have been the case. Although the College museum is at present closed, there is now on exhibition a collection of all the specimens illustrating gunshot injuries which the College possesses and which include also some of those furnished by the present war. Certain specimens of gunshot injuries on loan from other museums add further interest to the exhibition. We hope next week to indicate in more detail the contents of this exhibition, which will doubtless prove of great interest at the present time. As the specimens furnished by the present war are prepared and mounted they will be added to those now exhibited, and will be accompanied with brief clinical notes.

## THE PROPHYLAXIS OF SYPHILIS.

Sir Bryan Donkin has published an outspoken letter in the *Times* of January 6th, which says some things many people have been thinking, but believed to be inadvisable to say in the present state of public opinion in this country. Since the discovery of the specific organism of syphilis in 1905 scientific research has shown conclusively that infection can be prevented more surely than it can be cured by even the best modern methods of proper treatment. This fact, Sir Bryan Donkin considers, was clearly established by the precise experiments of the late Professor

Metchnikoff. The mention of Metchnikoff's name shows that Sir Bryan Donkin had in mind the experiments of Metchnikoff and Roux on the efficacy of calomel for the destruction of syphilitic virus when exhibited locally within a few hours of exposure. Their recommendations were founded on a series of experiments on the monkey, and one crucial experiment on man. Though the validity of the results of these experiments was disputed by Neisser in Germany, and also by some French physicians, Metchnikoff was able to show that some of the failures were due to the use of calomel ointment of insufficient strength. He recommended that the ointment should contain from 25 to 33 per cent. of calomel, and his final formula was calomel 33 parts, lanoline 67 parts, vaseline 10 parts. It would appear that Neisser's criticisms were in part founded upon the employment of too weak an application, and German authorities have stated that calomel ointment of the strength of 30 per cent. is prescribed in the German navy and army as a prophylactic. Metchnikoff pointed out nearly ten years ago that the application was useless unless made within a few hours, and the extreme limit is said to be eighteen and a half hours. Much, however, must obviously depend on the local conditions, and the method should not be condemned when the interval between exposure and the application of the ointment approaches the extreme limit mentioned. The hesitation in recommending this prophylactic is, however, we believe, to be traced not to any apprehension that when used in insufficient strength or in unpropitious circumstances it may fail, but to the fear that public opinion would not be favourable to the recommendation. Sir Bryan Donkin is of opinion "that instructed public opinion would be favourable, and especially at this time." In the last phrase he may be assumed to refer to the alleged great prevalence of the disease among soldiers; no statistics have been published in this country, and perhaps for this reason rumour has been busy. German authorities have been more frank, and have spoken of the frequency of venereal disease among their soldiers on active service as giving grounds for the anticipation that the civil population may be extensively infected when the soldiers are discharged after the war; very stringent regulations are enforced in at least some commands of the German army. What, if anything, is done in this direction in our own we are not in a position to say. The principle involved applies, however, to civilian practice, and the question is how far a medical practitioner is justified in recommending prophylactic measures to men who have not sufficient self-control to be continent. It is a matter which, in the present state of opinion, medical and public, must be determined by the exercise of private judgement, but we certainly think that a medical man who considers it right to give such advice ought not to be held open to censure, for, as Sir Bryan Donkin says, "prevention of disease is the watchword of modern medicine." His letter and most of what is written on the subject has reference almost solely to the share of the male in the dissemination of the disease. If effective measures for prevention are to be taken they must have regard to both sexes, and here the difficulty in the present state of public opinion in this country with regard to police measures becomes very great. So far as probabilities go, it is at least as likely that one infected woman will infect many men, as that one infected man will infect many women. The Copenhagen statistics, reproduced in the JOURNAL last October (p. 589), show a very remarkable increase in the number of cases of syphilis treated in the communal hospitals of Copenhagen in the seven years following the abolition of the regulation of prostitution. At the same time there was a slight decrease in the number of cases among women; these facts are open to several interpretations, one being that women have refrained from entering hospitals, and have continued their unhappy occupation while in an infected state. It is, however, doubtful whether notification would afford any remedy, and the experiences of Western Australia, given in another part of the JOURNAL this week, are rather striking; whereas 155 cases of syphilis were notified in males during the first fifteen weeks after notification became compulsory, only 26 cases in women were notified, and the official comment on these figures is that it is impossible to believe that this represents the proportional incidence of the disease in the sexes.

## THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD (ENGLAND AND WALES).

THE report[1] of the medical officer to the Local Government Board for the year ending March 31st, 1916, recently issued, contains a record which, so far as infectious diseases are concerned, is favourable, with the exception that a large number of cases of measles occurred. Over 10,000 cases were notified in the first week of January, 1916, and the weekly number remained high, reaching a maximum in the first week of May, when nearly 14,000 cases were notified. Thereafter there was a rapid decline, the number notified in the last week of August being 2,491. A certain number of the cases were military, the highest number in any one week being 1,033 in the week ending April 22nd. The figures here given include measles and German measles. Small-pox failed to gain more than a temporary footing in any district. Dysentery, notwithstanding the return to this country of many soldiers recovering from this disease, did not spread, nor did typhus fever. The amount of enteric fever was so small as to inspire Dr. Newsholme with fresh hope that the disease may erelong become extinct. Cerebro-spinal fever showed much activity in February, March, and April, 1915, and again in April and May, 1916, though to a less extent. During 1915, 2,566 cases were notified among the civil population, as compared with 315 cases in 1914, and 279 in 1913; there were 1,146 military cases in 1915, excluding cases originating overseas. These numbers relate to cases as originally notified, but in a number of instances the diagnosis was not subsequently confirmed. When the disease became prevalent the Board issued a revised memorandum upon it and also instituted investigations in its pathological laboratory under the direction of Drs Eastwood and F. Griffith. Dr. Bruce Lowe has contributed an account of the epidemiology of acute anterior poliomyelitis in recent years; it brings out the fact that no country, at any rate in the Northern hemisphere, would seem to be free from it, but the largest epidemics have occurred in the United States of America. The disease became compulsorily notifiable throughout England and Wales on September 1st, 1912, and the number of notifications received was 744 in 1913, 509 in 1914, and 517 in 1915. During the three years 338 cases were notified in London, 499 in county boroughs, 637 in boroughs and urban districts, and 280 in rural districts. So far only isolated cases or small groups of cases have occurred in England and Wales, and where groups of cases have occurred it has been exceptional for more than one case to occur in a single household. The call for medical officers for the military service of the Crown has depleted the local public health service and tuberculosis service, and many members of the medical staff of the Board itself have been engaged on military service in various capacities. The medical officer to the Board states that the absence of so many sanitary officers from their ordinary duties has been rendered comparatively safe only by the assiduity and arduous work of those officers who have remained at their civil posts. In many areas combinations have been made to permit one medical officer of health to undertake the duties of one or more others, and to permit the release of the tuberculosis officers whose duties were taken over by the medical officer or general practitioner; or, conversely, to permit

[1] Forty-fifth Annual Report of the Local Government Board, 1915-16. Published by His Majesty's Stationery Office. [Cd. 8423.] Price 9d. net.

the tuberculosis officer to undertake also the duties of medical officer of health. In other instances the county medical officer has undertaken district work, and in many areas the medical officer of health has undertaken the charge of a fever hospital to enable the resident medical officer to undertake military service. In addition, many women doctors have been acting as medical officers of health or assistant medical officers, tuberculosis officers, or resident medical officers in sanatoriums and fever hospitals, and their services have been invaluable.

## HONORARY DEGREES AT MALTA.

IT was announced in a recent number of the BRITISH MEDICAL JOURNAL that the University of Malta had conferred the honorary degree of M.D. on Colonels C. A. Ballance, C.B., M.V.O., W. Thorburn, C.B., A. E. Garrod, C.M.G., and H. H. Tooth, C.M.G. Dr. Thomas Agius, Professor of Physic, has kindly sent us a full account of the ceremony, which took place in the Aula Magna of the University on December 16th, 1916. It was the first statutory function of the kind held in the island. The Governor, Lord Methuen, and the Lieutenant-Governor, the Hon. E. Bonavia, were present, and members of the Executive and Legislative Councils, judges, members of the General and Special Councils of the University, and professors in their robes, occupied the space on either side of the dais. The body of the hall was thronged with naval and military officers and prominent members of Maltese society. The proceedings were opened with a Latin address by Professor A. Bartoli, who said that in the struggle now raging there was a growing determination that henceforth nothing with the taint of Germanism should be tolerated in the training of youth nor be suffered to influence our methods of instruction. With the object of emancipating literature and science once for all from Teutonic influence the leading men of learning in the nations now warring against Germany's ambitious struggle for world dominion proposed that all the higher educational institutions should form a closer alliance so as to secure unity of purpose and action. In this way literary and scientific workers would, by community of effort, always have the benefit of researches made in countries outside their own without having recourse to the so-called *Kultur* of Germany. The orator rejoiced that the University of Malta, the records of which dated back more than three hundred years, had never ceased to follow Latin methods of education, and that all the nations now opposed to German aims and culture had, with full accord, resolved to deliver their schools from a barbarous influence. Professor Bartoli concluded with a graceful reference to the good work done in the war by the men whom the University of Malta was honouring that day. "It was not," he said, "by chance that the ancients, practical in all things, gave Hercules also the name of Musagetes, and that they made Pallas, the mother of arts and sciences, also the goddess of war." After the address the Rector, the Hon. Professor E. Magro, proceeded with the ceremony of capping, robing, and presentation of the doctoral ring. The candidates took the prescribed oath and signed the Liber Aureus. The Rector then delivered an address in which he expressed the admiration with which he and the members of the university regarded the new honorary graduates for their exceptional attainments. All the faculties felt greatly honoured by the association of the names of such distinguished men with that of the University of Malta, small and modest, but of venerable age. The appropriateness of the degrees conferred in this instance was shown by the fact that one of the numerous hospitals which had risen in Malta as if by magic under their energetic Governor was that at present known by the name of the Valetta Hospital. The premises of that hospital had once been the Grand Hospital of the Order of Knights Hospitallers, which boasted that each one of the six or seven hundred patients cared for in it was served on massive silver plate, specimens of which might still be seen in the museum. That claim to excellence was surpassed in the present hospitals by the perfection of the sanitary and other arrangements, by the skill of the medical staff, and by the sympathy and care with which the patients were tended by the nurses. The Rector stated that the old hospital was the home of the first training school for barbers and nurses established in Malta, a school which in course of time developed into a regular medical school which was founded in it by Grand Master Nicholas Cottoner, a great many years before the present university came into being. The ceremony was brought to a close by the Governor, who, in a brief speech, recited the work done by the new graduates and referred to the services of Colonels Gulland, Charters Symonds, and Purves Stewart during their stay in Malta. He mentioned also the good work done by Colonel Barker, who, to the deep regret of all, gave his life for his country in Salonica. He thanked Sir Alfred Keogh on behalf of all engaged in hospital work in the island for sending men among the ablest in his profession to Malta.

## TREATMENT BY ULTRA-VIOLET RADIATION.

A DISCUSSION took place at the meeting of the Röntgen Society on January 2nd on the subject of ultra-violet radiation in treatment. It was introduced by Mr. C. A. Schunck, F.C.S., who has conducted a number of spectroscopic investigations into some sources of radiation in the ultra-violet region (from 3,934 to 1,850 Angström units). The result of his researches has been to establish the tungsten arc as the most intense and efficient of all sources, judged by the erythema effect. Major W. J. Turrell, R.A.M.C.(T.), with whom Mr. Schunck has collaborated at Oxford, said that the difficulty at the present time was in the supply of tungsten. For military purposes tungsten was available at a cost of 6s. a pound or a little more, but when he desired to secure a supply for civil hospitals all he could obtain was a pure tungsten costing four guineas a pound. It was hopeless for the individual to try to obtain tungsten for general medical purposes at present, and he suggested that something might be done to relax the stringency if representations were made to the authorities by medical bodies. As to the results of treatment in general by ultra-violet radiation, Major Turrell thought it desirable to preserve a mean between excessive enthusiasm on the one hand and scientific scepticism on the other. He had found it of use in eczema; in the treatment of Raynaud's disease it had proved distinctly superior to other forms of electrical treatment, such as ionization and the static breeze, and he had also used it successfully in cleaning up wounds. He considered that two kinds of lamps were needed in ultra-violet therapeutics—the ordinary arc lamp, unenclosed, used with a director or condenser, and taking ten or twelve ampères, and an enclosed lamp with a small opening into which the condenser could be fitted or not as required, and taking four or five ampères; the second type would have a considerable value in the wards of the ordinary hospital and in the treatment of superficial wounds. Major Robert Wilson, of the Canadian Army Medical Service, who has designed a lamp consisting of a positive of tungsten and a negative of cored carbon, said that in certain types of foul suppurating wounds ultra-violet treatment was very effective. It was not a panacea, but it might find a useful place in the armamentarium of the surgeon, and occasionally perhaps in that of the physician. The cored lamp did not cost more than £10 to make, took about 4½ ampères of current, and furnished all the ultra-violet rays which were required. Dr. Sidney Russ expressed scepticism as to Mr. Schunck's suggestion that the therapeutic action should be judged by the surface effect. Although the radiation within a certain narrow range might be cut off by the very thinnest layer of skin, 0.1 mm. in thickness, this did not necessarily prove that the effects stopped at this distance, for some

physiological action might be proceeding in the depths owing to the stimulus on the surface; nor did it follow that if the radiation within these narrower limits were not allowed to enter, other radiation had no physiological effect.

## CASANOVA.

AT a recent meeting of the Section of History of Medicine of the Royal Society of Medicine Dr. J. D. Rolleston read a paper on the medical interest of Casanova's *Mémoires*, which, he said, was one of the most important literary documents of the eighteenth century, and contained much that was of interest to the medical reader. Casanova, as a child, suffered from adenoids and small pox. His sanguine temperament predisposed him to epistaxis, to which he was subject from childhood, and to piles, which he first developed during his imprisonment in the "Piombi" of Venice. From early adult life onwards he had frequent attacks of ephemeral fever, probably malarial in origin. At the age of 45 he had a severe attack of lobar pneumonia. A typical example of a sexual athlete, without any homosexual taint, he had numerous attacks of venereal disease—gonorrhœa and soft chancre undoubtedly, and possibly syphilis as well. He apparently sought medical advice on each occasion, and no sequelæ resulted. In old age he suffered from gout, and his death was probably due to septic absorption secondary to enlargement of the prostate. Originally intended for the medical profession, he retained throughout his life his interest in medicine, as was shown by his descriptions of disease, his criticism of doctors, his dogmatic opinions on medical subjects, his successful simulation of various maladies, and his incursions into the field of therapeutics. In the course of his travels he was brought into relation, in a professional or social respect, with representatives of all ranks of the medical profession, including such celebrities as Haller and Tronchin, fashionable physicians like Herrenschwand, and humble practitioners like the doctor at Orsera of whose sudden affluence he was the indirect and unconscious cause. The *Mémoires* showed that venereal diseases were widely spread in the eighteenth century, and went with prostitution. The use of the condom, both as a prophylactic against infection and as a contraconceptive, was well known. Homosexuality was prevalent, especially in Italy. Bleeding was in vogue for almost every disease. Mercurial intoxication was frequent. Charlatans of every rank flourished, and belief in magic and witchcraft was rife not only in the south of Europe, but also in Paris and London.

## PIGS IN TOWN.

THE Board of Agriculture, considering that much can be done to add to the food production of the country by increasing the number of pigs kept, and also by the development of poultry and rabbit rearing, has approached the Local Government Board to take steps to relax restrictions on pig-keeping contained in by-laws of local authorities. The latter Board has now issued a circular to sanitary authorities in which it states that though in most rural districts there are no by-laws on the subject, and in others the by-laws only require that pig-sties shall be maintained in a cleanly and wholesome condition, a by-law is in force in a few rural and in a number of urban districts, providing that pigs shall not be kept within a prescribed distance of dwelling-houses. The Local Government Board, in order to meet the present emergency, is about to issue a regulation enabling any local authority to give permission for the keeping of pigs, either generally or in particular cases, notwithstanding the provisions of any such by-law. If the local authority is in a position to give a general dispensation from the restrictions it may yet find it desirable to impose conditions as to cleanly maintenance of sties, and it is to be understood that action under the regulation is not intended to interfere with the ordinary law in regard to nuisances. The object of the Board of Agriculture is to develop the keeping of pigs in places where there is likely to be a supply of food refuse available for their feeding, and though it is not contemplated that pigs should be kept in closely aggregated areas, it is believed that in many urban districts there are areas of a rural character where pigs could be kept without risk of nuisance. It is suggested that groups of persons might be formed to keep a number of pigs jointly and to make a systematic collection of sorted waste from shops, hotels, and boarding-houses, as well as from private houses. Upon this point the Board of Agriculture is prepared to advise, but in the meantime Lord Rhondda suggests that, subject to any advice which may be given to them by their medical officer of health on grounds of public health, a sanitary authority should not hesitate to consent to the waiving of restrictive by-laws in suitable cases, or to give a general dispensation, and at the same time to facilitate co-operative effort for the keeping of pigs and the collection of waste for their food. The announcement of this action of the Local Government Board will not be very pleasant news for dwellers in suburbs and the more thickly populated rural areas. It is not an easy matter to keep pig-sties clean; it is almost impossible without properly constructed sties, and even with these good bedding and constant attention are requisite. There is, no doubt, a great deal to be said for bringing the pigs to the food rather than the food to the pigs, but unless sanitary inspection is carried out more systematically than has been the rule in the majority of rural areas nuisance is almost certain to arise near the confines of towns. We therefore suggest that it would be well for the Local Government Board to advise the sanitary authority to co-operate with the pig-keepers not only in the collection of waste for the animals' food, but also for the removal of the manure produced. The keeping of poultry is on quite a different footing, for a moderate amount of care and expenditure of labour would prevent the creation of a nuisance.

## SUPPLY AND REPAIR OF MOTOR CARS.

WE are indebted to Mr. Massac Buist for the following note on the new regulations as to supply and repair of motor cars: The new regulations issued by the Ministry of Munitions concerning motor enterprise scarcely affect the medical profession, save so far as they confirm the belief that henceforth no new cars will be built, no cars assembled from parts already made, and that no spare parts will be manufactured for the duration of the war. Hence the need to emphasize the advice given lately in these columns to the effect that medical men should obtain at once any spare parts already manufactured which they are likely to need. Delay in this matter will be fatal, because stocks of spare parts are already nearly depleted. On the other hand, the medical profession has additional cause to expect the most intelligent treatment possible in respect of its motoring requirements, because the wise appointment of Dr. Addison to be Minister of Munitions has been followed now by the special appointment of Mr. Percy Martin, Managing Director of the Birmingham Small Arms and the Daimler Companies, to to be in sole charge of motor production of all sorts throughout the country for the period of the war. He has got to work already with excellent results, but is, of course, at present only concerned with co-ordinating war production. This work must be completed before the problem of attending to the needs of individual motorists can be tackled. Mr. Martin, however, has had over fourteen years' experience in this country of businesses almost wholly concerned with satisfying the needs of certain classes of private users. Hence no man could be better qualified than he to devise the best ways and means of assisting medical men as the first civilian class requiring attention after the actual needs of the war areas shall have been satisfied.

# THE WAR.

## WINTER CATARRHS AND BRONCHITIS.

Acute affections of the respiratory organs have been very prevalent in London and some other parts of England during the last month or six weeks. They have been commonly spoken of as influenza, but it is doubtful whether the majority have been true examples of that disease. In some instances, at any rate, bacteriological examination has revealed the presence of the pneumococcus or some other organism frequently associated with acute catarrhal disorders. It was hardly to be expected that the British Army in France should altogether escape, though men who live so much in the open air as soldiers may be more resistant than home-dwelling civilians. Yet it must be admitted that the atmospheric conditions have recently been very favourable to the development of the diseases commonly associated with, if not truly attributable to, damp ground and a moisture-laden atmosphere of low temperature. As a matter of fact the military hospitals in France have recently, we believe, received a considerable number of cases of the common early winter disorders, such as sore throat, bronchial catarrh, and rheumatism.

The bronchial troubles seen have been, we understand, for the most part of a familiar type and mild in character, but every now and then cases of much greater severity are observed. The initial pathology of these exceptional cases is, we believe, considered to be more or less identical in all cases, but two distinct clinical forms are met with. In the less rare a patient who, when he first reports sick, is probably deemed to be merely commencing an attack of ordinary bronchitis, begins within a few days to exhibit a somewhat higher temperature than that usually accompanying that disorder, and rapidly develops a clinical picture strongly suggestive of fulminant miliary tuberculosis of the lungs. Physical examination reveals little beyond rhonchi and râles, but the patient's colour tends to be grey and he is constantly coughing up green, purulent, non-aërated sputum. Death may occur in ten days or a fortnight, and the suggestion of miliary tuberculosis may persist to the end; but in the majority, after a week or so of rather severe illness, the temperature subsides with some abruptness, the cough and expectoration lessen, the patient's colour improves, and uneventful convalescence ensues.

In the rarer class the outstanding feature is the sudden development of acute dyspnoea, coupled with extreme lividity, in a patient previously regarded as suffering from only a slight chill or a feverish cold, or at most an unimportant degree of bronchial catarrh. Besides being dyspnoeic and livid, the patient is more or less profoundly unconscious, and as the heart's action is found to be strong though rapid, and nothing abnormal is audible beyond very prolonged expiration and perhaps a few râles, the only thing really clear is that the condition is one of impending death. On the whole, however, and especially in view of the condition having developed so rapidly, the various causes of laryngeal obstruction are likely to come into mind. In fact, at least in one instance the suggestion of laryngeal obstruction was sufficiently strong for a tracheotomy to be undertaken in the vain hope of affording relief; in other cases venesection and the administration of oxygen have been tried, with apparent temporary benefit. In some cases the excessively threatening symptoms may subside, but usually death supervenes. When this is the case *post-mortem* examination reveals purulent inflammation of the smaller bronchi, and affords grounds for the supposition that the immediate cause of death was a sudden blockage of a main bronchus by the thick pus in a patient who, had he survived, would have presented the clinical picture previously mentioned. Reflex spasmodic contraction of the bronchioles may also be a contributory cause.

Cases of these two types have been given the name suppurative capillary bronchitis; and, whatever their precise pathology and etiology may be, it is certain that they present a symptom-complex which, though easily recognized by any one who has once had the opportunity of studying a case to the end, is otherwise exceedingly likely to be misinterpreted. The textbooks are silent as to the occurrence of cases of bronchitis of this peculiarly dangerous type, and nothing seems as yet to have been published regarding them in medical war literature.

We understand that cases of the kind were observed in the winter of 1914–15, but vanished with the advent of spring. Last winter very few cases were seen, but it appears to be more prevalent again now. Fresh arrivals from warmer climates are probably most prone to suffer from it.

Bacteriological study has shown that a variety of micro-organisms, including the influenza bacillus, may be found in cases of this acute suppurative infection; sometimes one variety and sometimes another predominates. One curious point is that though the organisms may pass into the blood and be recognized there, the local effect seems to remain limited to the bronchioles.

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

*Lost at Sea.*

The transport *Ivernia*, 14,278 tons, formerly a Cunard liner, was torpedoed and sunk by a submarine in the Mediterranean on January 1st. The loss of life was at first stated as 4 military officers and 146 men, 2 of the ship's officers and 33 of the crew. A later report reduced the number to 85. One of the two ship's officers reported lost was the surgeon, Dr. J. T. E. Parker.

*Drowned.*

Surgeon Probationer W. S. Allardyce, R.N.V.R.

Surgeon Probationer William Swirles Allardyce, R.N.V.R., whose death from drowning as the result of a collision in the North Sea on December 21st, 1916, we announced last week, was the son of Mr. George Allardyce of Dublin. He was 19 years of age and was a third year student in the School of Physic, Trinity College, Dublin. He joined the service at the beginning of the present winter.

### ARMY.

*Died on Service.*

Major J. Hepple, R.A.M.C.(T.F.).

Major John Hepple, R.A.M.C.(T.F.), was drowned in the harbour at Bridlington, Yorkshire, late on the evening of December 30th, 1916, aged 47. He appears to have taken a wrong turning in the dark, and to have walked into the harbour. He was educated at Leeds Medical School, and took the diploma of L.S.A. in 1895 and that of L.M.S.S.A. in 1908. He had been for many years superintendent and medical officer of the Calder Farm Reformatory School, Mirfield, Yorkshire; and was Major and also Commandant of the 2/1st Yorkshire Mounted Brigade Field Ambulance since February 5th, 1915.

Lieutenant-Colonel R. C. McLeod, Canadian A.M.C.

*Wounded.*

Captain J. H. Askins, R.A.M.C. (temporary).
Captain T. P. Cole, R.A.M.C. (temporary).
Captain F. Griffith, R.A.M.C.(S.R.).
Captain V. M. Rich, R.A.M.C. (temporary).
Captain C. E. Whitehead, R.A.M.C.(T.F.).
Lieutenant D. Campbell, R.A.M.C. (temporary).

Deaths among Sons of Medical Men.

Macdonald, Angus, Corporal Royal Scots, the Lothian Regiment, second son of the late Dr. A. D. Macdonald, of Dumfries, posted as missing on July 1st, now reported killed on that date, aged 36.

Nason, J. W. W., Captain Royal Sussex Regiment, and Flight Commander, Royal Flying Corps, youngest son of the late Dr. C. St. S. R. Nason, of Gloucester and St. Leonards, killed in an air action on December 26th, aged 27. He was a well-known cricketer, and played for Sussex at the age of 17. He got his blue at Cambridge, playing against Oxford in 1909 and 1910, and also played for Gloucestershire for two seasons.

## MENTIONED IN DISPATCHES.

A supplement to the *London Gazette*, dated January 4th, contains a dispatch from General (now Field Marshal) Sir Douglas Haig, submitting a list of officers, ladies, non-commissioned officers, and men serving, or who have served, under his command, whose distinguished and gallant services and devotion to duty he considers

deserving of special mention. The following are the names of the medical officers contained in the list:

STAFF.

Lieutenant-General Sir A. T. Sloggett, K.C.B., C.M.G., Honorary Surgeon to the King.
Surgeon-General W. G. Macpherson, C.B., C.M.G., M.B., Honorary Physician to the King.
Colonel C. H. Burtchaell, C.M.G., M.B.
Major R. B. Black, M.B., R.A.M.C.(Reserve of Officers).

ARMY MEDICAL SERVICE.

Surgeon-General M. W. O'Keefe, C.B., M.D.

*Colonels (temporary Surgeon-Generals).*

J. Murray Irwin, M.B.
W. W. Pike, C.M.G., D.S.O., F.R.C.S.I.

*Colonels.*

G. H. Barefoot, C.M.G.
A. W. Bewley.
A. W. N. Bowen (temp. Colonel).
E. G. Browne, C.B.
G. Cree, C.M.G.
T. Daly.
J. J. Garrard, M.B.
W. L. Gray, M.B.
A. J. Luther.
S. Macdonald, C.M.G., M.B.
R. L. R. MacLeod, M.B.
F. J. Morgan.
F. R. Newland, M.B.
H. I. Pocock.
B. H. Scott.
B. M. Skinner, C.M.G., M.V.O.
J. Thomson, M.B.
H. S. Thurston, C.M.G., R.A.M.C.
T. du B. Whaite, M.B.
R. W. Wright, M.B.

*Brevet-Colonel and Lieutenant-Colonel (temporary Colonel).*

H. Ensor, D.S.O., M.B., R.A.M.C.

*Lieutenant-Colonels (temporary Colonels).*

J. D. Alexander, M.B., R.A.M.C.
R. J. Blackham, C.I.E., F.F.P.S., R.A.M.C.
E. W. Bliss, R.A.M.C.
G. W. Brazier-Creagh, C.M.G., (ret. pay).
F. R. Buswell, R.A.M.C.
E. B. Dowsett, R.A.M.C.
P. Evans, C.M.G., M.B., R.A.M.C.
J. D. Ferguson, D.S.O.
F. J. Greig, R. of O.
H. A. Hinge, C.M.G., R.A.M.C.
A. W. Hooper, C.M.G., D.S.O.
J. Poe, D.S.O., M.B., R.A.M.C.
C. E. Pollock, R.A.M.C.
C. W. Profeit, M.B., R.A.M.C.
H. V. Prynne, F.R.C.S., R.A.M.C.
D. D. Shanahan, R.A.M.C.
J. P. Silver, M.B., R.A.M.C.
E. W. Slayter, C.M.G., M.B., R.A.M.C.
F. A. Symons, D.S.O., M.B., R.A.M.C.

*Lieutenant-Colonels.*

A. Chopping, C.M.G., R.A.M.C.
H. B. Fawcus, C.M.G., M.B., R.A.M.C.
H. C. R. Hime, M.B., R.A.M.C.
H. S. Roch, R.A.M.C.

*Majors (temporary Lieutenant-Colonels).*

T. E. Harty, R.A.M.C.
E. Ryan, D.S.O.

*Majors.*

C. G. Browne, D.S.O., R.A.M.C.
J. M. H. Conway, F.R.C.S.I., R.A.M.C.
H. H. A. Emerson, M.B., R.A.M.C.
C. H. Furnivall, R.A.M.C.
O. Ievers, M.B., R.A.M.C.
C. J. Martin, M.B., R.A.M.C.
J. F. Martin, C.M.G., M.B., R.A.M.C.
J. St. A. Maughan, R.A.M.C.
C. R. Millar, R.A.M.C.
L. M. Purser, M.B.
G. F. Sheehan, R.A.M.C.
H. G. Sherren, R.A.M.C.
C. G. Thomson.
L. V. Thurston, R.A.M.C.
R. N. Woodley, R.A.M.C.

*Captains.*

D. D. Logan, R.A.M.C.
T. H. Scott, M.C., M.B., R.A.M.C.

*Temporary Captains.*

O. L. V. De Wesselow, M.B.
E. Scott, M.B., R.A.M.C.

CONSULTANTS.

Lieutenant-Colonel (temporary Surgeon-General) Sir A. A. Bowlby, K.C.M.G., K.C.V.O., F.R.C.S.
Lieutenant-Colonel (temporary Colonel) Sir J. K. Fowler, K.C.V.O., M.D., F.R.C.P.
Major (temporary Colonel) J. Galloway, M.D., F.R.C.P., F.R.C.S.
Major (temporary Colonel) H. M. W. Gray, C.B., M.B., F.R.C.S.Edin.
Lieutenant-Colonel (temporary Colonel) Sir W. P. Herringham, C.B., M.D.
Temporary Lieutenant-Colonel Gordon M. Holmes, M.D.
Captain (temporary Colonel) H. M. Rigby, M.B., F.R.C.S.
Temporary Colonel P. W. G. Sargent, M.B., F.R.C.S.
Temporary Colonel T. Sinclair, M.D., F.R.C.S.
Captain (temporary Colonel) S. Maynard Smith, M.B., F.R.C.S.

ROYAL ARMY MEDICAL CORPS.

*Lieutenant-Colonels (temporary Colonels).*

H. N. Dunn, M.B.
A. D. Sharp, F.R.C.S., C.M.G.
B. Watts.

*Lieutenant-Colonels.*

M. H. Babington.
W. K. Clayton.
R. W. Clements, M.B.
W. B. Cockill, M.D., T.D.,
H. Collinson, M.B., F.R.C.S.
O. W. A. Elsner.
R. S. H. Fuhr, D.S.O.
J. G. Gill.
G. H. Goddard.
T. H. J. C. Goodwin, C.M.G., D.S.O.
F. Hawthorn, M.D.
H. Hewetson.
W. E. Hudleston.
E. T. Inkson, V.C.
J. W. Langstaff.
C. W. Mainpraise.
E. M. Morphew.
H. H. Norman, M.B.
W. Ranson, F.R.C.S.E.
A. G. Thompson, M.B.
A. A. Watson, M.B. (S.R.).

*Brevet Lieutenant-Colonel:* F. G. Fitzgerald.

*Temporary Lieutenant-Colonels.*

W. A. Benson.
B. H. V. Dunbar, M.D.

*Majors (temporary Lieutenant-Colonels).*

W. Bennett, M.B.
E. B. Bird.
J. H. Brunskill, M.B.
R. A. Bryden.
R. H. L. Cordner.
H. A. Davidson, M.B.
L. P. Demetriadi, M.D., F.R.C.S.
N. E. Dunkerton.
H. H. J. Fawcett.
W. R. P. Goodwin.
D. L. Harding, D.S.O., F.R.C.S.I.
W. J. S. Harvey.
A. E. Hodder, M.B.
R. N. Hunt, M.B.
D. O. Hyde, M.B.
A. E. S. Irvine, D.S.O.
H. B. Kelly, M.B.
E. B. Knox, M.D.
J. Mackinnon.
E. C. Montgomery-Smith.
E. H. M. Moore.
A. C. Osburn, D.S.O.
M. B. Ray, M.D.
T. F. Ritchie, M.B.
A. M. Rose, M.B.
A. W. F. Sayres.
H. G. Smeeth, M.D.
H. Stewart, M.C., M.B.
R. J. C. Thompson, D.S.O.
P. Turner, M.D.
M. G. Winder.
B. F. Wingate.
J. Wood.

*Surgeon Major:* A. W. Shea.

*Majors.*

W. B. Armstrong, M.B.
B. R. Dennis, M.B.
G. E. Gask, F.R.C.S.
W. Haig, M.B.
M. J. Mahoney, D.S.O., M.D., T.D.
S. M. W. Meadows.
T. B. Moriarty.
T. J. Potter.
J. O. Summerhayes.
W. Wiley, M.B.
R. C. Wilmot.

*Temporary Majors (temporary Lieutenant-Colonels).*

C. E. Ligertwood, M.D.
A. N. Walker, M.B. (killed).

*Temporary Major:* R. Magill, M.B.

*Captains (temporary Majors).*

W. K. Beaman.
F. L. Bradish.
C. S. Brebner, M.D.
G. H. Dive.
G. B. Edwards.
T. A. Green, M.D.
D. F. Mackenzie, M.B.
G. Mackie.
K. D. Murchison, M.B.
W. B. Purdon, M.C., M.B.
T. T. H. Robinson, M.B.
W. G. Wright.

*Captains.*

H. S. A. Alexander, M.B. (S.R.).
F. R. Armitage, M.B.
D. C. Barron (temporary Major, commanding Field Ambulance).
J. H. Bayley (S.R.).
F. A. Bearn, M.C., M.B. (S.R.).
K. Biggs (S.R.).
W. W. Boyce.
C. D. M. Buckley M.B. (S.R.).
H. M. Calder, M.B.
W. K. Campbell, D.S.O., M.B. (S.R.).
W. D. Carruthers, M.B.
H. M. Clarke, M.B.
J. Clayton.
S. J. Clegg.
W. H. Davison, M.B.
A. W. Dennis, M.B.
M. Dixon, M.D.
C. O. Donovan, M.B.
F. Ellis.
G. D. Ferguson, M.B.
N. M. Fergusson, M.B.
F. G. Foster, M.B. (S.R.).
W. Fotheringham, M.B. (S.R.).
P. A. Galpin, M.D.
E. C. Gimson, D.S.O., M.B.
N. F. Graham, M.B.
C. F. Hacker, M.B. (S.R.).
D. A. R. Haddon, M.B.
F. D. G. Howell, M.C.
L. E. Hughes.
C. Jacobs, M.B.
D. W. John (S.R.).
E. J. Kavanagh, M.C., M.B.
A. J. Kendrew, M.C., M.B.
H. D. Lane.
J. Lawson, M.B. (S.R.).
H. Lightstone, M.C.
C. H. Lilley, M.B.
H. A. Lucas.
D. Macfadyen, M.B. (S.R.).
A. G. Maitland-Jones.
J. S. Manford, M.B.
J. D. Marshall, M.B.
R. M. Miller.
T. M. Miller, M.C. (S.R.).
W. A. Miller, D.S.O., M.B. (S.R.).
J. E. Milne, D.S.O., M.D.
H. Moore.
C. R. M. Morris, M.B.
H. G. Mulholland, M.B.
T. P. Noble, M.D.
E. Percival, D.S.O., M.B.
A. Picken, M.B.
E. B. Pike.
J. P. Quinn, M.B. (S.R.).
J. Rafter, M.B.
D. O. Riddel.
W. L. Robertson, M.B., F.R.C.S.E.
G. Scott, M.B.
R. L. Scott, M.B., F.R.C.S.E.
R. S. Scott.
E. J. Selby.
B. C. O. Sheridan, M.B.
G. C. E. Simpson, M.B., F.R.C.S.
A. A. Smalley, M.B. (S.R.).
C. N. Smith, M.B.
G. F. R. Smith, M.B.
J. Stephenson.
G. V. Stockdale, M.B. (S.R.).
L. W. Taylor (S.R.).
J. H. Thomas.
J. E. G. Thompson.
D. C. Vey.
J. R. N. Warburton (S.R.).
J. B. A. Wigmore, M.B.
A. Wilson, M.B.
G. R. C. Wilson.
W. H. Young.

*Temporary Captains.*

E. C. Abraham, M.B.
C. Aldis, M.D.
J. Anderson, M.B.
G. A. Barss, M.D.
L. G. Bourdillon, D.S.O., M.C.
N. W. Broughton, D.S.O., M.B. (killed).
F. Carson, M.B.
W. D. Chambers, M.D.
R. Charles, F.R.C.S.I.
J. A. Conway, M.D.
M. Coplans, M.D.
J. Craig, M.B.
E. C. Cunnington.
H. B. Day, M.D.
H. Emerson, M.B.
M. FitzMaurice-Kelly, M.B., F.R.C.S.
J. C. B. Grant, M.B., F.R.C.S.E.
H. E. Griffiths, F.R.C.S.E.
G. F. Hardy.
R. McC. Hill, D.S.O., M.B.
A. Hunter, M.B.
D. W. Hunter, D.S.O., M.B.
J. T. Hurst, M.B.
T. L. Ingram, D.S.O., M.C. (killed).
J. G. Johnston, M.B.
A. C. Keay, M.B.
J. T. MacKenzie (since relinquished his commission).
H. R. Macintyre, M.D.
A. F. Mavety, M.B.
R. W. Michell, M.D., F.R.C.S.
W. G. Mumford, M.B., F.R.C.S.
W. N. Parker, M.D.
W. H. Parry, M.B.
A. F. Readdie.
G. D. Robertson.
H. H. Robinson, D.S.O.
T. A. Rothwell, M.D.
G. W. R. Rudkin.
E. Seelly, M.B.
J. C. T. Teggart.
L. H. Terry.
H. Upcott, F.R.C.S.
H. Walker.
P. L. Watkin-Williams, D.S.O., F.R.C.S.
H. B. Wilson, M.D.
G. D. Yates, M.B.

*Lieutenants.*

W. N. Gilmour, M.D.
R. Svensson, M.B.
M. J. T. Wallis.

*Temporary Lieutenants.*

A. P. Hart, M.B.
H. L. G. Hughes, D.S.O.
D. S. Jones.
E. M. Litchfield.
N. McFarlane, M.B. (since relinquished his commission).
J. A. Pierse, M.B.
S. Potter.
L. M. Rowlette.
W. J. E. Stuttaford.

### ROYAL NAVAL DIVISION MEDICAL UNIT.

Staff Surgeon C. E. C. Stanford, M.B.

### AUSTRALIAN ARMY MEDICAL CORPS.

STAFF.

*Colonels.*

G. W. Barber.
A. Sutton.

*Lieutenant-Colonels (temporary Colonels).*

C. H. W. Hardy, V.D.
A. H. Sturdee, C.M.G., V.D.

*Majors.*

A. G. Butler, D.S.O.
J. E. Dods, M.C.
H. K. Fry.
A. H. Marks.

*Lieutenant-Colonels.*

H. N. Butler.
W. W. Hearne.
A. Horn.
R. B. Huxtable.
A. J. Meikle.
J. H. Phipps.
T. G. Ross.
C. G. Shaw.

*Majors.*

J. H. Anderson.
G. C. Byrne.
L. W. Jeffries.
H. B. Lewers.
R. S. McGregor.
C. Mattei.
J. B. St. V. Welch.

*Captain (temporary Major).*

H. W. Woollard.

*Captains.*

G. B. Bailey.
H. R. Catford.
D. Embleton.
R. L. Henderson.
S. McLennan.
H. F. H. Plant.
A. H. Powell.
V. W. Savage.
A. C. Smith.
F. L. Wall.

### CANADIAN ARMY MEDICAL CORPS.

STAFF.

*Colonels.*

G. La F. Foster, C.B.
A. E. Ross, C.M.G.

*Major (temporary Colonel).*

A. E. Snell.

*Colonel.*

H. S. Birkett.

*Lieutenant-Colonels.*

R. J. Blanchard.
E. H. Hardy.
H. M. Jacques.
C. A. Peters.
W. Webster.
R. P. Wright.
T. W. H. Young.

*Majors.*

E. H. Blaylock.
P. Burnett.
L. C. Harris.

*Captains.*

N. J. Barton.
R. H. M. Hardisty.
H. Hart.
R. St. J. Macdonald.
D. E. Robertson.
S. G. Ross.
W. H. Scott.
J. P. Walsh.

### NEW ZEALAND MEDICAL CORPS.

STAFF.

*Colonel:* C. M. Begg, C.M.G. *Major:* A. R. D. Carbery.

*Lieutenant-Colonel:* D. N. W. Murray. *Major:* A. A. Martin (killed).
*Captain:* G. V. Bogle (killed).

### SOUTH AFRICAN MEDICAL CORPS.

*Temporary Majors.*

R. N. Pringle, M.B. M. S. Power.

*Temporary Captains.*

M. B. Lawrie, M.B. T. Welsh, M.B.

### INDIAN MEDICAL SERVICE.

*Colonel:* C. C. Manifold, C.B., M.B.

The dispatch also contains, in addition to non-commissioned officers and men of the R.A.M.C., and the colonial medical services, the names of nineteen members of the British Red Cross Society and Order of St. John of Jerusalem, eleven of Queen Alexandra's Imperial Military Nursing Service, sixteen of Queen Alexandra's Imperial Military Nursing Service Reserve, fourteen of the Territorial Force Nursing Service, fifteen of the Civil Hospital Reserve, twenty-five of the Women's Voluntary Aid Detachment, four special military probationers, seven members of Voluntary Aid Detachments, and five lady workers.

## NOTES.

### HONOURS FOR MEMBERS OF THE NURSING SERVICES.

THE supplement to the *London Gazette* dated January 1st contains a list of 182 ladies awarded the decoration of the Royal Red Cross in recognition of their valuable services with the armies in the fields. The Royal Red Cross of the 1st Class is awarded to 22 members of Queen Alexandra's Imperial Military Nursing Service, 9 members of Queen Alexandra's Military Nursing Service Reserve, 6 members of the Territorial Force Nursing Service, 2 members of Queen Alexandra's Military Nursing Service for India, 3 members of the Australian Army Nursing Service, 1 member of each of the New Zealand, South African, and American Nursing Services, and 1 member of the Nursing Staff of Civil Hospitals. The Royal Red Cross of the 2nd Class is awarded to 19 members of Queen Alexandra's Imperial Military Nursing Service, 42 members of Queen Alexandra's Imperial Military Nursing Service Reserve, 25 members of the Territorial Force Nursing Service, 1 member each of Queen Alexandra's Military Nursing Service for India, and the American Nursing Service, 6 members each of the Australian Army and Canadian Army Nursing Services, 4 members of the New Zealand Nursing Service, 23 members of the Nursing Staff of Civil Hospitals, and 4 members of the British Red Cross Society.

### *Military Cross.*

Second Lieutenant R. A. Green, 14th Hampshire Regiment, who recently received the Military Cross for conspicuous gallantry and good leading displayed during the attack on the German front line opposite the Schwaben Redoubt on October 21st last, is the son of Mr. James Green, honorary secretary and treasurer of the Southern Branch of the British Medical Association and a member of the Central Council of the Association. Lieutenant Green commanded the bombers in an attack on the German trenches. Going in front of the first wave he first of all bombed the Germans in their front line; he then proceeded up a communication trench and killed or captured all the Germans in a bombing post. When wounded he remained in command of his men, who had formed stops in the German communication trenches, until he fainted from loss of blood.

# England and Wales.

AT the meeting of the General Council of King Edward's Hospital Fund for London on January 8th resolutions providing for the work of the Fund for 1917, as reported in the JOURNAL of December 23rd, p. 883, were formally adopted. Mr. W. J. H. Whittall was added to the General Council, and Sir Edward Hope, K.C.B., to the Executive Committee.

### THE LONDON SCHOOL OF ECONOMICS.

Some idea of the amount of work done by the London School of Economics and Political Science (University of London), and of the opportunities afforded for obtaining instruction in the subjects the school teaches, may be gathered from the time-table of courses of lectures and special lectures for the Lent term, which begins on Monday next, January 15th, and ends on March 30th. Of the special public lectures, the first—on the organization of

trades—will be given by Mr. Ernest J. P. Benn on Thursday next, when Sir William M'Cormick will take the chair at 5 p.m. This will serve as an introduction to a course of five public lectures on the staple trades of the empire arranged in furtherance of the aims of the Imperial Studies Committee of the University, to be given on Fridays, beginning on February 2nd, when Mr. Arthur Steel-Maitland, M.P., Under Secretary of State for the Colonies, will give a lecture on oils and fats in the British empire. A composite course of ten lectures on new forms of social effort will begin on January 18th at 5 p.m., and will deal with such subjects as mental deficiency, subnormal children, the Children Act of 1908, schools for mothers, the antituberculosis campaign in London, and the relations of the Insurance Act to social work. The fee for this course is 12s. 6d.

### MIDWIVES, MATERNITY CENTRES, AND CHILD WELFARE IN MANCHESTER.

The annual report of the Manchester Midwives Supervising Committee, while omitting for the sake of economy most of the usual tables of statistics, gives the main facts in connexion with the working of the Midwives Act in Manchester during 1915. The number of midwives practising was 155, and they attended 9,012 births out of the total notified for the year, which was 16,604. The report specially notes that "in Manchester the older type of uneducated women, the 'Sarah Gamps,' has been practically eliminated; the present midwives are, on the whole, a much better type of woman in every respect, and are better trained." The records of sending for medical aid numbered 2,313, as compared with 2,606 in the previous year; arising out of them there were 696 applications from medical practitioners for the payment of fees. After careful investigation the committee decided to pay the fees in 530 cases, the total sum thus paid being £452 as compared with £568 in 1914. In the majority of cases in which an application was rejected this was due to the income limit being above the scale. The committee has continued to pay the fees of midwives for attendance at the confinements of the wives and widows of soldiers and sailors, and of other women in need of assistance as a result of the war; 964 applications were received, and in 882 of these fees were paid, the total amounting to £566. The total number of stillbirths known was 640, of which 219 occurred in the practice of midwives and 421 in the practice of doctors, the latter being ascertained from the cemeteries' returns. During the year 93 cases of puerperal infection were notified with 25 deaths, as compared with an average of 108 with 24 deaths for the last ten years; 22 of the cases occurred after abortion or premature labour. The cases in which a midwife only had been present at the confinement numbered 36 with 5 deaths, the doctors' cases 40 with 13 deaths; the remaining 17 cases with 7 deaths had been attended by both doctor and midwife. In considering the revision of the rules of the Central Midwives Board, the committee has suggested that the term "puerperal fever" should be replaced by the term "puerperal pelvic infection," and that the explanation of the term in the rules should be "puerperal pelvic infection, puerperal sepsis, blood poisoning of pelvic origin."

The Supervising Committee has also taken charge of the maternity section of the maternity and child welfare scheme. The scheme as originally proposed was considered to be too costly, and in its final shape consisted of three parts—(1) the provision of four new centres for consultations and clinics; (2) taking over the medical and nursing work carried out at the six centres established by the School for Mothers, the social work being left under the School for Mothers; (3) the opening of two centres for guidance and aid to pregnant women. Treatment at the clinics is given only when the total family income falls below a fixed scale, the circumstances of each case being investigated by the Charity Organization Society. A notable feature of the arrangement is the close co-ordination between the work of the health visitors and of the centres. Lists are prepared of infants found by the health visitors not to be thriving and of young children requiring medical attention, and the mothers are asked to bring their children to the proper centres, care being taken not to interfere with any medical attendant. The corporation has also arranged to secure the exclusive use of eighteen beds at the Babies' Hospital at Levenshulme for cases recommended by the Infant Life Preservation Subcommittee, and will pay half the cost at the rate of 30s. a week. The number of consultations held during the last six months of the year was 4,046, and 3,260 visits were paid to houses. The Midwives Supervising Committee is engaged in framing a scheme for the maternity section to ensure closer association with the hospitals for diseases of women, and has received deputations from the medical board of the St. Mary's Hospitals and from the Manchester Division of the British Medical Association.

## Scotland.

THE head quarters of the Scottish Women's Hospitals, Edinburgh, has received a communication stating that Calcutta is sending a donation of £13,000, the result of a number of meetings held there by Mrs. Abbott. The first subscription list was opened by the Caledonian Society, and one lady gave £1,000.

### EDINBURGH ROYAL INFIRMARY.

The annual general meeting of the Edinburgh Royal Infirmary was held on January 3rd under the chairmanship of the Lord Provost. The report stated that the total number of patients treated to a conclusion was 11,558 (3,320 medical and 8,238 surgical). The percentage of deaths was 6.7, but if those which occurred within forty-eight hours of admission were deducted the percentage was 5.4, the same as in the preceding year. The number of out-patients was 37,649. During the year three wards, in addition to a number of extra beds in the side rooms of ordinary rooms, had been in use for men in the army and navy (633 soldiers and 270 sailors). Of the latter 68 were from the battle of Jutland. The number of patients admitted to the convalescent house, Murrayfield, was 1,216, the daily average number of inmates being 64.65. The majority were kept for three weeks or more, but 23 had to be returned to the infirmary for further treatment. It has been arranged to add five workers' representatives to the Board, raising its number to 26. Two will represent the Miners' Associations of Fife and Kinross, and Mid and East Lothian respectively, one the Coal and Shale Miners' Association of West Lothian, and the two others the Trades Council, as representing all workers other than the miners and including an increasing number employed at Rosyth. Effect cannot be given to this at present, as it will be necessary to obtain an Act of Parliament. In consequence of the serious depletion of the honorary staff, owing to so many members being on military service, it has been determined to suspend for the duration of the war the rule which requires all physicians and surgeons to retire on attaining the age of 65 years. Special thanks were given to two members of the consulting staff who have given valuable service in the special departments to which they were formerly attached. The Lord Provost said that the financial results for the year were satisfactory, as the total ordinary and extraordinary income had not only been sufficient to meet expenditure, but there was a credit balance of a little over £5,000. The employees at the coal and shale mines and oil works throughout the Lothians and Fifeshire had agreed to double their systematic contributions, with the result that a sum of over £6,000 had been contributed by them in the year. Owing to the increased cost of articles of maintenance and of furnace coals the cost per occupied bed had risen to £75 15s. 9d. for the year. It was highly gratifying that, notwithstanding the difficulties of the present position, owing to the shortage of staff, which had entailed increased pressure upon the physicians and surgeons carrying on the work of the institution, the whole of its work had been most fully and adequately maintained in accordance with the splendid record of the past.

### BEQUESTS TO HOSPITALS.

The trustees of the late Miss Marjory Shanks Schaw of Glasgow have now allocated sums amounting to £311,500 to various charities in the west of Scotland, mostly of a medical nature. The Royal Infirmary and the Western Infirmary, Glasgow, each received £60,000, and the Royal Infirmary in addition £40,000 for a Schaw Convalescent

Home; the Victoria Infirmary receives £40,000; the Royal Samaritan Hospital for Women, the Royal Hospital for Sick Children, and the Glasgow Royal Maternity and Women's Hospital each receive £10,000; the Higginbotham Sick Poor Nursing Association £3,000; the Lock Hospital, Ophthalmic Institution, and the Infirmary of the Royal Cancer Hospital in Glasgow each £2,000; and the same amount is received by the Royal Alexandra Infirmary, Paisley, the Greenock Hospital, the Helensburgh Victoria Infirmary, and the convalescent homes at Dunoon and Kilmun; the Glasgow Hospital for Women and the Women's Private Hospital each receive £1,500; the Glasgow Central Dispensary, the Glasgow Hospital for Diseases of the Ear, Nose, and Throat, the Johnstone and District Cottage Hospital, and the Dumbarton Cottage Hospital each receive £1,000. Among the institutions which receive £500 are several local nursing associations, the Royal Victoria Eye Infirmary, Paisley, the Kilsyth and Blantyre Cottage Hospitals, and the Glasgow Dental Hospital.

# Ireland.

### LOCAL GOVERNMENT BOARD (IRELAND).

THE annual report of the Local Government Board (Ireland) for the year ending March 31st, 1916, has been issued, as the result of departmental economy, in a somewhat abridged form as compared with the annual reports previous to the outbreak of the war.

*Statistics of Pauperism.*

In previous reports, under this heading, attention was called to the great decrease in the number of persons in receipt of relief since 1910. In the year under review there was a further decrease of 1,360, as compared with the preceding year, in the number maintained in workhouses; the decrease in the number of sick was 384; in the aged and infirm, 364; in the children, 213; in the lunatics and idiots (excluding those in hospital), 90; and in all other classes (including the able-bodied), 373. The number in receipt of outdoor relief was 3,150 less than in the preceding year, the decrease in the average number for the whole year being 1,199. The reduction in the number obtaining poor relief is to some extent due to the migration of labourers to Great Britain and the consequent opening for employment for the less fit, but perhaps in a larger measure to the fact that a number of the classes chargeable to the rates are now in receipt of separation and dependants' allowances. The total average number in receipt of both forms of relief during the year was 68,753, and represented a pauperism of 1 in every 63 of the estimated population of the country, as compared with 1 in every 43 ten years ago.

The total number of deaths in workhouses during the year was 9,981. The deaths included sixteen centenarians. There were 1,567 deaths from tuberculosis, as compared with 1,734 in the preceding year. It is satisfactory to note the decrease in deaths from this cause during the past five years. In 1912 there were 1,945 deaths from tuberculosis.

In the past year 436,878 cases were attended at the dispensaries and 154,217 at the patients' own houses, as compared with 476,775 at the dispensaries and 173,380 at the patients' houses in the previous year.

*Royal Army Medical Corps.*

The report states that the proportion of Poor Law medical officers who have joined the Royal Army Medical Corps and are now on active service is high. The Local Government Board commends their action in volunteering, as showing that the praiseworthy spirit of self-sacrifice is met with in every branch of the medical profession. The report adds that in consequence of the enormous staff of doctors now required by the navy and army to attend the wounded there is naturally a very great dearth of candidates for employment under the Poor Law, and guardians have experienced difficulties in making temporary arrangements for the care of the sick poor in districts where the post of medical officer has become vacant, as well as during the sick leave or vacation of medical officers.

*Small-pox and Vaccination.*

Five cases of small-pox were reported from the town of Lisnaskea, co. Fermanagh. The disease was confined to one family, and the type was of a particularly mild character. The total number of primary vaccinations performed by the Poor Law medical officers during the past year was 73,453, as compared with 62,688 in the year ended March, 1915, and 59,049 in the preceding year. There are still large numbers of unvaccinated children in Ireland, but the guardians are now, under pressure from the Local Government Board, taking vigorous steps to bring in the defaulters.

*Typhus Fever.*

The cases of typhus fever notified numbered 112, as compared with 189 in the preceding year. These figures, however, do not fully disclose the incidence of the disease, partly because notification of infectious diseases has not been universally adopted.

*Cerebro-spinal Fever.*

Sporadic cases of cerebro-spinal meningitis have occurred in various districts throughout the country, but have given no ground for apprehension.

*Tuberculosis Officers.*

In twenty-seven counties and three county boroughs appointments of tuberculosis officers have been made. These officers, in addition to their ordinary duties, have been engaged in organizing a system of administration, assisting in the selection and arrangement of central tuberculosis dispensaries, and in discharging the functions of medical advisers to the county Insurance Committees for the purposes of sanatorium benefit.

# Canada.

### THE CANADIAN MEDICAL ASSOCIATION.

IT has been decided to hold a general meeting of the Canadian Medical Association at Montreal on June 13th, 14th, and 15th, 1917, and Dr. A. D. Blackader, Acting Dean of the Medical Faculty of McGill University, has been unanimously chosen as president. Dr. W. S. Morrow, President of the Montreal Medico-Chirurgical Society, has been elected Vice-President, and the General Secretary is Dr. J. W. Scane, Registrar of the McGill Medical Faculty. The Address in Medicine will be delivered by Dr. Theodore C. Janeway of Baltimore. The last meeting of the Association was held in St. John, New Brunswick, in 1914, under the presidency of Colonel Murray MacLaren, C.M.G. A meeting was to have been held in Vancouver in 1915, under the presidency of Dr. R. E. McKechnie, but was postponed on account of the war. It has been decided that in all cases in which the *Journal of the Canadian Medical Association* was still being delivered, membership in the Association should be retained upon payment of the sum of two dollars a year, which represents the cost of the *Journal* to the Association.

### THE ANTITOXIN LABORATORY OF THE UNIVERSITY OF TORONTO.

The first Canadian laboratory for the preparation of public health biological products was established at the University of Toronto in May, 1914, by Dr. J. G. Fitzgerald, the present director of the laboratory, with the co-operation of Sir Edmund Osler, chairman of the Medical Section of the Commission of Conservation and a governor of the University of Toronto. The establishment of the laboratory was followed by an immediate decrease in the price of antitoxins and serums; for instance, a dose of 5,000 units of diphtheria antitoxin, which formerly cost from 3 to 5 dollars, became available for 1 dollar and 50 cents. The enterprise received the cordial support of the Ontario Board of Health, and arrangements were made for the distribution of serums prepared in the laboratory through all the local health boards in the province of Ontario. Similar arrangements were made by Dr. M. M. Seymour, Commissioner of Health for the province of Saskatchewan, and Dr. W. H. Hattie, Provincial Health Officer of Nova Scotia, and for Newfoundland.

The outbreak of the war gave a great impetus to the work of the laboratory and made it important that the preparation of tetanus antitoxin should be undertaken. This was rendered possible by the generosity of Colonel A. E. Gooderham, a member of the board of governors of the university, who offered to equip a laboratory for the preparation of this serum. At the same time the Department of Militia and Defence agreed to make a grant of 5,000 dollars on condition that the entire output of the antitoxin should be available for the use of the department, should it be required. Arrangements were made to supply to the Militia Department tetanus antitoxin at cost price. The special laboratory was established under the direction of Dr. R. D. Defries, who has been able to supply all the tetanus antitoxin required for the use of the Canadian Expeditionary Force; over 50,000 packages have been sent overseas.

In addition to vaccines required for war work, large quantities of diphtheria antitoxin, antimeningitis serum, antirabic vaccine, small-pox vaccine, etc., have been supplied by the laboratory free of charge or at a purely nominal cost.

# Western Australia.

NOTIFICATION OF VENEREAL DISEASE.

IN the JOURNAL of August 5th, 1916, an account was given of the new Health Act Amendment Act providing for the treatment of venereal diseases. That Act provided for notification. No names of patients were to be disclosed, and to prevent double counting of cases the doctor certifying had to state whether the patient had or had not previously been under treatment for the present infection. It may be added that unqualified practice in venereal disease is prohibited by this Act under penalty of a fine of £50 or six months' hard labour; also that the failure of a sufferer to secure treatment within three days of his becoming aware of his state renders him liable to a penalty of £50.

Notification came into force in June, 1916, and the Commissioner of Public Health has issued a statement of the first fifteen weeks' working. The number of doctors sending notifications indicates that the profession is co-operating in the administration of the Act. The analysis of the returns gives no indication of the prevalence of the diseases in the absence of population figures. But there are some points of interest.

In the last complete month the number of new cases notified was—Syphilis 20, gonorrhoea 77, a proportion of a little over 1 to 4. An aspect of the notification which causes concern is the disproportion between the figures for the two sexes. In the fifteen weeks 155 cases of syphilis and 333 of gonorrhoea were notified in males, whereas only 26 and 29 cases respectively were notified in females. "It is impossible to believe that this represents the proportional incidence of these diseases in the sexes, and the only conclusion is that females are much less inclined to seek medical advice."

Of all the cases one-half occurred in patients aged 20 to 30 years, and one-third in soldiers, the majority of whom contracted the disease at home and not abroad.

# Correspondence.

## MOBILIZATION OF THE PROFESSION.

SIR,—Whether mobilization of the nation for national service becomes necessary or not, what the medical profession require now is, in the words of your leading article of January 6th last, an organization which will secure the highest efficiency with the least dislocation of civil work. I am living in a town of about 50,000 inhabitants. During the past year five or six of our younger doctors have been taken from us to serve in France, three others who had very large practices among the poor have died, and no newcomers have replaced them. Nearly every other practitioner in the town is engaged on military service. The result is that for months past the majority of us are showing marked signs of the very heavy strain thrown on us by doing both military and civil work—this at a period of the year when our military hospitals are having a quiet time.

Unless the work is better organized than it is at present I feel sure that the strain will be further increased by some of our senior members falling out from sheer overwork. We could, with proper organization, get a great deal of the tedious writing which we are called upon to do taken off our shoulders by voluntary helpers if necessary. I personally know of one case in which the doctor has had to give up his practice in the town, and has on an average less than an hour and a half's military work to do in a town 100 miles away which could be equally well done by a doctor in practice in that town.

It is quite certain that if our organization is not improved the civil population is going to suffer a good deal more from the lack of medical and surgical help than it has done at present.—I am, etc.,

January 9th. M.D.

SIR,—Many temporary officers of the R.A.M.C., whose homes have been broken up or whose practices have been destroyed without corresponding advantage to the army, must have read with sympathy the letter by "F.R.C.S.E." in your issue of December 30th, 1916.

All know well that it is necessary to maintain a large reserve of medical officers for the army, but how easy it would be, for a small retaining fee, to keep such a reserve of medical men in their own homes under pledge of immediate service within a few hours of being called up.

There must be very few temporary officers of the R.A.M.C. who are not conscious of that real and basic administrative defect in their corps which is causing the waste of medical men, but, wearing the King's uniform, their lips are sealed. You, Sir, will do but an ill service to our profession and to our country if you fail to proclaim the true and manifest cause of this waste which is constantly present in all our minds. Surely the country has suffered enough from a false sense of security, for such a policy to commend itself to your JOURNAL or to the noble calling which its readers follow.—I am, etc.,

January 1st. M.D., TEMP. CAPT. R.A.M.C.

SIR,—I can endorse every word written by F.R.C.S.E. under the above heading in the BRITISH MEDICAL JOURNAL of December 30th, 1916. I have done nearly two years in the R.A.M.C. on a great variety of jobs. Even with the best intentions and the greatest keenness — sanitation, lectures to men and officers—it is difficult to spin the work out for more than an hour or two each day. Loafing about and trying to be amused is our usual lot day after day. Only during a push for the short time that one's own regiment is engaged does our work ever approach the amount done by an average general practitioner in busy practice every day.—I am, etc.,

January 7th. REGIMENTAL M.O.

SIR,—I find your correspondents "F.R.C.S.E." and "M.Ch." rather amusing writers, and request your permission to state why this is the case.

"F.R.C.S.E." joined the R.A.M.C. "nearly a year ago," but says he has spent most of the intervening period "loafing." None of the units to which he has been assigned has welcomed his arrival with joy, and some have indicated a difficulty in finding him a job. Therefore the service is overmanned. His opinion on the point can hardly be disputed, as he has served nearly as long as twelve months, and during that time has passed through as many as eight different units.

As for "M.Ch.," he, too, has served for a year, and during that period has done no more work than he could compress into a month, yet without depriving himself of "recreation and study." His opinion, therefore, precisely coincides with that of "F.R.C.S.E.," and is equally incontestable, for during his twelve months' service he has done practically "every sort of job, both at home and in France," except duty at a casualty clearing station.

I myself happen to have served a little more than twice as long as both these gentlemen, so, despite being merely a humble M.R.C.S., I venture to say that their opinions are wrong, and their reasons self-damnatory.

Individuals who serve in so many units as these writers have probably proved to be square pegs in round holes. When a unit is short handed it much prefers to get along as it is than to have its work impeded by the introduction of an individual who seems to have neither the necessary knowledge nor initiative to make a useful cogwheel without a great deal of driving and teaching. Consequently every newcomer is put through his paces on his arrival, and if his action does not prove attractive he is not given a full load but passed on. I am told that individuals of the same type are to be found in the combatant branches of the service, and that the remedy adopted is usually somewhat harsher than that here indicated.

The subject raised in this correspondence is one with which none but experienced administrators are competent to deal. Administration on a large scale is as distinct a study as medicine, and military administration of all kinds is one of the most complicated of its branches; as long as we are subjected to it the best thing to do is to recognize this fact and not grouse.—I am, etc.,

January 9th. M.R.C.S.

## THE CIVIL SURGEONS IN OUR WAR HOSPITALS.

SIR,—There are to-day many medical men working in our war hospitals as civil surgeons. These men have for various reasons been refused commissions, yet they have

found employment, and are working side by side with men who have received commissions and are doing the same work. They have not cost the country expensive outfits, their salary is less, and their privileges *nil*. Many have left their practices to the untender mercies of the men at home. Their service is not distinguished by the honourable decorations of H.M. commission, but it is nevertheless a purer form of patriotism. Some recognition should be made of the services of these men.—I am, etc.,

January 4th. A. B.

## PSYCHO-ANALYSIS.

SIR,—It is not quite clear, either from Dr. Mercier's paper in your issue of December 30th, 1916, or from the letter of Dr. D. G. Thomson, which follows, whether their object is to discredit the main conception of Freud along with the whole system of treatment based upon it, or merely certain of its later and inessential developments. But I think Dr. Mercier's intention is to impugn the whole thesis of Freud, and, if so, he will have to bring to the task better weapons than ridicule and misrepresentation. This hypothesis, consisting of a few simple general notions, quite probable in themselves, and which succeeds in reducing to order and unity a whole chaotic tangle of data, has every aspect of a solid advance. Its weak point, as some of us foresaw, is that its agreement with the facts can, from the experimental side, only be shown by a method (psycho-analysis) which readily lends itself to fallacy. Already one reads fancied proofs by the use of this method which prove nothing more than the mental incompetence of the observer; but, in spite of the inherent difficulties of proof, and the mishandling and degradation so often suffered by new hypotheses after their promulgation, there can be no doubt that the main doctrine of Freud has come to stay. If Dr. Mercier thinks otherwise, then let him put a weight on his pen and tell us quite dispassionately what facts and arguments he considers fatal to its acceptance.—I am, etc.,

Liverpool, Jan. 7th. EDMUND HUGHES.

SIR,—Permit me to express my grateful thanks to you for publishing, and to Dr. Mercier for writing his most masterly exposition of psycho-analysis. Apropos of the attempt to undermine the innate sense of decency in our children alluded to by Dr. Mercier, is it known that psycho-analysts (some have been given commissions) are at their pernicious work in the lunacy wards of our great war hospitals?—I am, etc.,

January 4th. DECENCY.

SIR,—Dr. Mercier in his treatise upon psycho-analysis in the BRITISH MEDICAL JOURNAL of December 30th, 1916, is hardly just to the supposed reality of the "unconscious" mind.

He states correctly, and everybody would agree, that "in investigating the unconscious we are altogether outside the realms of evidential knowledge," but earlier in his study he states that "I am not sure that it is possible to understand it. I am not sure that it has any substantial meaning at all."

One of the canons in regard to evidence is that a summation of probabilities approaches to certainty, and whatever deductions the psycho-analyst may arrive at do not dispose of the existence of the unconscious. I do not wish to misquote Dr. Mercier nor to attribute to him a meaning that he himself does not imply, but my interpretation is clear from the quotation—namely, that he not only censures the conclusions of the psycho-analyst, but he also doubts the existence of the territory in which he delves. As to the former, with very few exceptions, all physicians who practise in mental diseases cordially support Dr. Mercier, and as to the latter, the unconscious activity of the mind is something *with* us but apparently not *of* us. Lecky in his *History of Rationalism* pointed out many years ago as to events so completely forgotten that no conscious effort of the will could revive them, and the recital of them by others could call up no reminiscences, it was yet possible under certain conditions to recall them into consciousness, and this by a chance association such as that used by the psycho-analyst. Lecky suggested that these ideas were located in the unconscious mind. Yet they could reappear, when the will was suspended, through cerebral automatism. Sir Walter Scott relates that the plots of his own romances often came out of his unconscious mind, and without volitional effort presented themselves to his conscious mind. Oliver Wendell Holmes says the unconscious mind is an independent creative and informing spirit, which "tells us what to believe, frames our sentences, lends a sudden gleam of sense or of eloquence to the dullest of us all, and we wonder that this Divine visitor should choose our brain as its dwelling place, and invest our naked thought with speech and song." Although it is often suggested that the unconscious mind is the recent discovery of the Freudians, Sir William Hamilton scores of years ago referred to its influence upon normal thought. He stated that consciousness cannot exist independently of some peculiar modification of mind, yet some modification of mind is possible without actual consciousness. The experience of those such as distinguished preachers, and public speakers, who habitually exercise the mind, confirm this view that there seems to be an undercurrent of mind which arranges thoughts without their ever coming into the field of awareness. We may go to bed full of anxiety and perplexity about some troublesome problem relating to one's self or to one's family, and no solution seems possible, but in the late hours of the night or in the early hours of the morning, the doubts have been removed and the anxiety and confusion have disappeared. The solution has occurred, and the unconscious mind has successfully found the answer. The experience of inventors, writers, and many other busy persons can relate flashes of the unconscious mind which suddenly illumine the conscious, but which, unless recorded at the time, suddenly fade back again and are beyond recall in the unconscious mind.

The unconscious mind is admitted by all, not the lay teacher alone, to be of incalculable influence in the education of the young, and in this respect it is often of more importance than the sensible conscious influence of the teacher, because it is acting continuously and is yet out of the mind. It consists especially of the influence of example, and this can be exerted insensibly upon others; in fact, it goes out from every individual into his own environment, and is passive rather than active. Eventually in later life it evolves self-revealed in the person's character. It is this influence upon the young which is exercised by the unconscious mind. It forms the "mental bias," and an old judicial friend and counsellor used to say what we all needed when exercising the critical faculty was to cultivate the bias of anti-bias. Although we may be quite unaware of it, this stored-up memory of the unconscious mind contributes to form the basis of our social life and customs, of our beliefs and of our conduct, both singly and in groups. Conceptions acquired in childhood remain latent in the mind, but ready to reappear when the mental associations are sufficiently powerful to dig them out. The organ of the mind in the young is "wax to receive and marble to retain." It is because of this impressionability in the young that teachers realize the importance of the unconscious. A moral atmosphere in youth is the guiding principle of the unconscious exercised over the conscious, and it will help to form the motive force in conduct, so that the unconscious influence of example becomes an "atmosphere" of the greatest practical importance in the education of the young; it helps to determine the direction of thought and feeling without being actually in consciousness.

I have demonstrated the territory of the unconscious at such great length in order to show its real existence, and to point out its importance in educational life, as well as to support Dr. Mercier in his trenchant criticisms of Freudian psychologists. In this I may have laid myself open to the taunt that I have only elaborated the obvious; but of one thing I am certain, the evil effects of psycho-analysis have not been overstated.

We have known the influence upon conduct of many of the instinctive passions and selfish sentiments, and we see them now in uncultured and untutored man; but the natural instincts are many and varied; they are not, as the Freudians suggest, limited to sex only. They are as numerous as the emotions which are their outward expressions; sex, hunger, disgust, pugnacity, flight, pride, the search for warmth, and any of these, may become deranged through disease; yet, all perversion of whatever kind is held by this school to be dependent upon some perversion of sex feeling, and a symbolic code based upon sexual suggestion has been invented to afford a key of

interpretation to the symptoms. The sexual suggestions made by Freudian psycho-analysts to pure innocent minds as a solution of their illness is a loathsome practice and deserves the utmost censure. In another place I urged the official interference of the "high authorities" with this practice, and fortunately, and in no small degree owing to the untiring exposure made by Dr. Mercier, the representatives of this school, in this country at any rate, are a dwindling minority, and their methods are now regarded as reprehensible.

I note a letter upon this subject in your issue of January 6th from Dr. D. G. Thomson, which is somewhat difficult to understand, but I gather that he objects to the teaching of "Jung and Co." and "Bloch and Co." and "to the weak-spined Britishers who, knowing no prophets of their own, hail those from Germany *in excelsis*," whatever this may mean. He refers to "the Mind and its predominant partner, the Intellect," but I have generally understood, upon the doctrine of psycho-physical parallelism, that the predominant partner of the mind is the body! He appears to imply that the instincts and the emotions have received less attention than the intellect, and he is evidently not acquainted with the works of Lloyd Morgan, A. F. Shand, W. B. Cannon, J. Loeb, C. S. Sherrington, H. S. Jenkins, and a host of others who have worked in the field of comparative psychology.

If Dr. Thomson's letter represents the considered opinion of the Medico-Psychological Association upon the practice of psycho-analysis, as appears to be implied, it seems to be a somewhat indequate indictment; but if, on the other hand, he is merely expressing his own views I have no further criticism.—I am, etc.,

London, S.W., Jan. 9th. ROBERT ARMSTRONG-JONES.

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SIR,—I have the misfortune to be haunted by a devil, who subjects me to innumerable small annoyances, apparently with the purpose, which he ought by this time to know is unattainable, of making me lose my temper. His favourite device is to hide my things, especially papers that I wish to refer to; but when he is not hiding my things he hovers round my pen and guides it into directions unintended by me. He is cunning enough to blind me to these inaccuracies as long as there is time and opportunity to correct them, but as soon as they are irrevocable he removes the bandage from my eyes, and lets me see them grinning at me with the fiendish mockery of their author.

There are no fewer than three such devilries in my article on Psycho-analysis; and no doubt my familiar hoped that some psycho-analyst would have the intelligence to detect them and score off me, but he has credited the psycho-analysts with more acumen than they possess.

I said at the outset that the two principles of psycho-analysis are the principle of Sexuality and the principle of Conflict; but in examining the second principle I call it the existence and activity of the Unconscious. What I should have said, but for my familiar, is the existence and activity of the conflict in the Unconscious.

The second blunder has been exposed by Dr. Moon. I should no more of my own accord attribute a doctrine of Tertullian, the Father of the Church, to Quintilian, the pagan rhetorician, than I should attribute a doctrine of Van Helmont, the Dutch physician, to Van Buren, the American President. It is my familiar that is responsible.

Later I was made to speak of the superstition that Germany is pre-eminent in mental disease. This is no superstition. Germany is pre-eminent in mental disease. What I should have written if my familiar had not interfered is the superstition that Germany is pre-eminent in mental science.

Colonel Thomson's appreciation, coming as it does from the President of the Medico-Psychological Association, is most grateful to me; but if it is true that British medicine has ignored the influence of the sex instinct, the fault is assuredly not mine. In every one of my books on *Psychology*, on Mental Diseases, and on *Conduct*, I have given due prominence, but not undue prominence, to the important part this instinct plays in our mental constitution and our lives; and in the last-mentioned book, on Conduct, I have described carefully, and at length, the conflicts that occur in our minds—not in the Unconscious—between the primary instincts, which I regard not as two but as three—the sex instinct, the instinct of self-preservation, and the racial instinct. Let the galled jade wince: my withers are unwrung.—I am, etc.,

Parkstone, Dorset, Jan. 8th. CHAS. A. MERCIER.

## SAFE ANAESTHESIA.

SIR,—Dr. Barton has performed a commendable and public-spirited act in avowing his list of casualties under chloroform, in his letter to the BRITISH MEDICAL JOURNAL, December 23rd, 1916. The list is a small one, but on that very account it accentuates the relative frequency of death under the lighter degrees of anaesthesia.

I note that Dr. Barton presumes that some "other factors" may have been operative as the cause of one of the deaths he reports. Now I find it frequently happens that, when the evidence of light anaesthesia is incontestable, some more or less indefinite "other factor" is saddled with the responsibility for the death of the patient instead of the chloroform. This attitude is excusable in individual cases, bearing in mind the prevailing teaching that death from chloroform is always the result of overdosage, but it is quite inexcusable in an aggregate of cases of which a common feature is an obviously underdosed condition, or at least an obvious absence of overdosage.

It is extraordinary how difficult it is to obtain recognition of clinical facts such as those Dr. Barton has related, facts which actually stare one in the face. The truth of the matter is that most of these cases are prejudged, and I venture to predict that any unbiassed common jury would give a verdict in favour of death under light anaesthesia and not from overdosage, on the common-sense evidence afforded by such records as already exist.

I will not trespass on your space, Sir, by arguing the minutiae of these cases afresh, nor will I waste words in the endeavour to elicit a response from the exponents of the overdose theory, for they appear to have wrapped themselves in the comforting mantle of dogma. I wish to urge that this question is capable of solution if only the profession will combine to thresh the matter out once for all. Thousands of pounds have been expended upon the experimental investigation of death under chloroform, and many of our most eminent scientists have spent a great deal of time and energy working at the subject, yet we are still at the crossways! And all this time the clinical evidence exists, I am persuaded, for founding a sure judgement; there must be a wealth of clinical evidence of the nature required locked away in private notebooks, a material that will never be available for scientific annotation unless an effort be made to recover it.

Ever since the administration of anaesthetics has become a speciality reports on fatalities have become increasingly infrequent, and this is quite understandable, for such reports may entail heavy financial losses to the reporters. I am firmly of the opinion that a great deal of this valuable material might be gleaned and future reports collected by an authoritative body, proceeding on lines calculated to ensure concealment of identities. The Royal College of Surgeons and the Anaesthetics Section of the Royal Society of Medicine are both closely interested in the safe administration of anaesthetics; will one or both of these bodies, acting conjointly, render a public service by the endeavour to clear up this vexed question on the lines I have suggested?—I am, etc.,

London, W., Dec. 31st, 1916. A. G. LEVY.

## X-RAY DIAGNOSIS OF GAS IN THE TISSUES.

SIR,—It is interesting to note how many independent observers have during the past three months drawn attention to the appearances of gas gangrene in skiagrams. At the October meeting of the Electro-Therapeutic Section of the Royal Society of Medicine, two papers on this subject were contributed. Mr. Martin Berry described the appearances seen at the Herbert Hospital, Woolwich, and I analysed 100 plates of gas gangrene which we had taken at the Scottish Women's Hospital, Royaumont, France, during the summer of 1916. Both papers are published in the December number of the *Archives of the Röntgen Rays*, and in the current issue of the *Proceedings* of the Royal Society of Medicine. Dr. Pech, the original radiologist at the Creil Military Hospital, France, has just published his observations in the French journal of radiology. It was Dr. Pech who first taught me the importance of these skiagrams, which can not only demonstrate the presence of gas, but in many cases also

the variety of invading anaërobe. At Royaumont we could latterly distinguish (before the bacteriological report) whether *B. perfringens*, *B. sporogenes*, or the more dangerous germs, *Vibrion septique* and *B. oedematiens*, were present. Warning of danger could thus frequently be given from an examination of the skiagram, even when the clinical signs at the time gave no cause for anxiety. It will be of great use to the wounded if these observations are confirmed by other radiologists. I had not read any paper on the subject when I prepared my analysis, but I had seen several gloomy prognoses made by Dr. Pech, only too soon confirmed.—I am, etc.,

London, W., Jan. 6th. AGNES SAVILL.

## COMPULSORY LATIN.

SIR,—My objection to Dr. Cow's letter was not that compulsory Latin does not ensure—or, if he prefers the phrase, make it more likely—that a medical man will spell correctly, but that the principle he seemed to be supporting was unsound.

I think it is true that a pharmaceutical chemist will criticize the practitioner who misspells prescriptions or deviates in any other way from what the chemist believes to be the proper conduct of a "gentleman." Many people do really think that the chief use of teaching the humaner letters is to indicate a class distinction.

I suggest that people who reason in this way do not deserve to be encouraged, as they might be by Dr. Cow's letter.—I am, etc.,

Loughton, Jan. 7th. M. GREENWOOD, JUN.

SIR,—Although simply a general practitioner I should like to be allowed to tender my humble, though hearty, support to the views expressed by such eminent men, within the profession, as Sir John Moore, Dr. William Gordon, and Dr. Douglas Cow, and outside the profession, by Viscount Bryce and Professor Gilbert Murray.

I have always had to deplore my defective knowledge of the classic languages, a knowledge which, like that attributed to Shakespeare by his friend Ben Jonson, consists in "small Latin and less Greek." With the aid of the dictionary, however, I have been able to surmount most of my difficulties. I grumbled at the time I had to give to the study of these languages, but am now grateful for the benefit I feel from having done so, and wish I had been compelled to learn more.

How is it possible for a man to understand the many new terms, expressive either of disease or the treatment of disease (which are constantly being evolved from the classic tongues), without a knowledge of the tongues from which these terms are derived? I know nothing more painful than to hear a teacher misinterpret the terms he uses. I recently heard a teacher at one of the London hospitals explain to his hearers that orthopaedics was so called because it dealt with club-foot.—I am, etc.,

S. D. CLIPPINGDALE, M.D., F.R.C.S.

London, W., Dec. 16th, 1916.

SIR,—I think it will be admitted that in scientific nomenclature there are more words drawn from Greek than from Latin sources, and the student who is ignorant of the classics, and who is not cramming, must spend as much time in the mere mechanical search for the meaning of such words, even though he rely upon a condensed dictionary of derivations, as would go a long way towards the acquisition of the essential parts of both languages. And even in the study of the languages themselves an incredible amount of time is lost in looking up individual words in a dictionary. In studying Greek a man would save time who had sufficient courage to boldly attack a small lexicon from A to Ω. The constant repetition of the root words as they recur in their combinations would impress his memory if he merely read on without any effort at memorizing.

Dr. Giles's translation of the classical authors in Cornish's series, where every sentence is translated literally and word for word, would facilitate a rapid acquisition of the requisite knowledge of both languages in those who have not had the advantage of a school or college training in these subjects; and such introductions as Dr. Wm. Smith's *Initia Graeca* and the *Principia Latina* (John Murray), to which keys are published, would enable any intelligent student in the short space of one year, and without a master, to pass easily, in conjunction with the other subjects, any of the preliminary examinations insisted on by the older universities. Such student, should he never open a classical author from the day he passes his examination, would be sufficiently equipped with a knowledge of Greek and Latin words to facilitate the whole course of his medical curriculum. The power to read any Greek or Latin author at sight should not be the object aimed at, for, requiring long and arduous training even in the especially gifted, it is of no importance whatever as an equipment for scientific studies.

I think it was the late W. E. Gladstone who said that a single hour a day devoted to some one subject of study for one year would result in an accumulation of knowledge that would astonish any one who tried it. Hence, when so much can be accomplished in so short a time and with so little sacrifice of other subjects, it is incredible that educated men could consider for a single moment the expurgation of so incalculable an advantage as either the Greek or the Latin language as essential precursors of medical studies. Ignorance of Latin must set medical men at a lower intellectual level than chemists, who for many years to come must be able at a moment's notice to dispense Latin prescriptions from physicians of the older school, who will not set aside their prejudices to meet present day innovations.—I am, etc.,

Liverpool, Dec. 30th, 1916. WILLIAM BRAMWELL.

## THE PATHOLOGY OF CANCER.

SIR,—The letter of Mr. McAdam Eccles interests me, as his experience and opinion agree with mine. I have "never wavered in my belief" in the contagiousness of cancer, and I think every medical man in general practice could, if he pleased, produce abundant clinical evidence to confirm the belief.

I wish to cite a few cases from my own experience. Those of husband and wife, mother and daughter, successive tenants of the same house, are common enough. I know of one family whose members died from cancer as follows: Father, mother, daughter-in-law, mother of daughter-in-law, son-in-law, unmarried daughter living with married daughter who subsequently died, but whose husband, when last heard of, remained well. I know of the housekeeper, aged 60 years, addicted to eating raw oatmeal when preparing the porridge of the widower whose servant she was. She died from cancer. Shortly afterwards the widower died from an undiagnosed affection of the liver, suspected to be malignant. The house was greatly infested by mice.

A miller, the owner of a flour mill, who described himself to me as being a specialist in oatmeal, died from cancer of the rectum. He also was addicted to eating oatmeal. I have known oatmeal, when brought to the table, give forth a mouse odour, which has pervaded the whole room. On examination numerous pieces of mouse excreta were found in the porridge. There is a considerable field for the activities of the food and drug inspectors in the large and small grain stores of this country.

The amount of mouse excreta in the loose oatmeal of this country is almost equalled by the amount of grubs in the boxed oatmeals which come from oversea. The mouse-infested house in relation to cancer requires further investigation.—I am, etc.,

Luton, Jan. 8th. JOHN BIRCH.

## THE SOLDIER'S FOOT.

SIR,—In cases of metatarsalgia and of mild hallux valgus Colonel Robert Jones recommends the weight to be taken off the heads of the metatarsal bones by a bar across the sole like a football bar, but worked into the thickness of the sole. I wish to point out that the same effect can be produced with the minimum of trouble by sticking on one or more layers of ordinary Woodyatt bicycle tyre patches on the top of the sole. In fact, any building up of a boot sole which may be required can be done by means of overlapping patches of this material in a minute or two. Nobody ought, of course, to attempt to do this without a thorough understanding of the principles laid down by Colonel Robert Jones in the JOURNAL, May and June, 1916.—I am, etc.,

Palmerston North, New Zealand. W. C. GREIG, M.D.

# Obituary.

## WILLIAM ORANGE, C.B., M.D., F.R.C.P.,

FORMERLY MEDICAL SUPERINTENDENT, BROADMOOR CRIMINAL LUNATIC ASYLUM.

### OFFICIAL AND PERSONAL: AN APPRECIATION.

WILLIAM ORANGE, whose death on December 31st, 1916, at the age of 83, was announced last week, was of Huguenot extraction, an ancestor having settled in Derbyshire early in the seventeenth century, not so very long after the massacre on St. Bartholomew's Day in 1572. His father, the Rev. John Orange—a man of studious and philanthropic character—was an Independent Baptist minister who "preached the word" first at Newcastle and afterwards at Torquay, where the subject of this notice was born on October 24th, 1833, and where he showed much promise as a youngster at school and gained quite a number of silver medals. When about 15 years of age Orange was apprenticed, as the custom then was, to a doctor at Swallowfield in Berkshire for the purpose of entering the medical profession. He prosecuted his studies at St. Thomas's Hospital in London, and became M.R.C.S. and L.S.A. in 1856. On leaving the medical school he took a prolonged tour on the Continent in charge of a gentleman whose health had broken down, a trip which enabled him to furnish himself with a passable linguistic equipment in French, German, and Italian, which he found very useful in after years. After some dispensary practice and a spell of three years' work as assistant medical officer at Tooting he was appointed Deputy Superintendent of the Criminal Lunatic Asylum at Broadmoor at its opening in 1862, under his old chief Dr. Meyer, who was the first Superintendent. Together they got the place into working order, and laid the foundation of much public work in connexion with this particular department. One Sunday in 1866, while kneeling at the Communion service, Dr. Meyer was struck a violent blow on the head by a patient with a stone slung in a handkerchief; on his death in 1870 Dr. Orange, who then succeeded him, thus writes of him:

DR. WILLIAM ORANGE, C.B.

*Photograph by* [*A. J. Melhuish, London.*

> To the injury which he received from a patient and to the constant mental strain occasioned by the responsibilities of his office, must, I believe, be chiefly ascribed the loss which the asylum has had to deplore.

In 1868 Orange took the degree of M.D. of Heidelberg, and became a Member of the Royal College of Physicians of London, of which he was elected a Fellow in 1878. In 1883–84 he was President of the Medico-Psychological Society of Great Britain and Ireland, and in that capacity delivered an admirable address on criminal lunacy, pointing out the relations of mental derangement to offences against the law of the land, and explaining the efforts that were then being made by Parliament and the legal authorities to bring the procedure of the Courts, with regard to trials in criminal mental cases, into some sort of uniformity as a development of the practical experience of medical men in these cases.

The Home Office was well advised in promoting Dr. Orange to be head of Broadmoor, although such excellent and capable candidates as Dr. Lockhart Robertson, Superintendent of the Sussex Asylum, and Dr. Gover, the Medical Inspector of Prisons, were being "run" for the post. I knew Dr. Orange at this time, but I did not become officially connected with Broadmoor until 1876, when I was appointed Deputy Superintendent. Since that date it has been my privilege to preserve a close and unbroken friendship with him up to his death.

Orange's work as Superintendent of Broadmoor, as a pioneer in systematizing the complicated details of management and treatment of criminal lunatics generally, and in formulating and adjusting the multitudinous array of questions bearing upon insanity in its relation to crime, made him a world-wide authority of the highest repute on these and allied subjects. Amongst the many privileges that I had as his deputy was that of meeting the many eminent authorities on insanity and crime, both British and foreign, who came to seek his counsel and to visit the asylum and its inmates. Dr. Motet, a French physician of great eminence and experience, wrote to his Government after a visit in 1881: "We have returned from Broadmoor satisfied at having found the realization of an idea that has always appeared to us to be right." And two years later the French Senate received the following report:

> The delegates of the Commission of the Senate who visited Broadmoor on October 10th, 1883, were satisfied that, despite the fine exterior appearance, the liberality of the accommodation, and the exceptional care bestowed upon the dietary, there is no unnecessary extravagance. It is true that one might at first sight imagine some extravagance in the personnel of the attendants as regards their number, their selection with regard to height and physique, and their admirable appearance; in their bearing, in the taste bestowed upon their private dwellings, which form an avenue of charming cottages outside the asylum; but one recognizes at once that the great importance given to this question of the personnel of the attendants affords the explanation, not only of the small number of escapes and other casualties at Broadmoor, but also of the unexpected spectacle of good order, tranquillity, and perfect discipline which strikes strangers who visit it.

It was a source of much gratification and encouragement to Dr. Orange to have such testimony to the success of his efforts in wearing down the officiously adverse criticisms which were at times levelled against the *raison d'être* of Broadmoor and the "extravagance" which attended the safe and proper treatment and management of this special class of asylum inmate.

In appreciation of his work the Medico-Psychological Society of Paris made him a Foreign Associate, and other societies abroad paid him a similar compliment.

Most of Orange's work as medical adviser to the Home Office in criminal mental cases was of necessity confidential. But among the many cases of individuals sentenced to death for murder in which, with a colleague, he held a statutory medical inquiry on behalf of the Home Secretary may be mentioned that of Christiana Edmunds (1872) the notorious Brighton poisoner. In this complicated and difficult case Dr. Gull and Dr. Orange, after a long examination of the prisoner, found sufficient grounds to justify them in certifying her to be insane. Another important case was that of the Walthamstow murder in 1883 where William Gouldstone took the lives of his five children. Here Drs. Orange and Gover found distinct evidence of insanity. In both these cases a considerable amount of feeling and of conflict of opinion amongst medical men and the public was engendered, the value of the Home Office reference under circumstances of the sort was demonstrated, and whatever excitement or irritation may have been displayed was allayed. Orange's capacity for making patient and searching investigation and of, as it were, penetrating the intimate workings of the mind of accused persons, and his wide experience in dealing with cases of the sort, made him invaluable in the administration of justice at this angle, where evidence has to be weighed in combination with personal examination, and where the issues of life and death may be said to be

involved. In the case of Lamson, the Wimbledon murderer, who was hanged, no insanity could be found.

In March, 1878, the Reverend Henry J. Dodwell was tried for shooting at the Master of the Rolls (Sir George Jessel) and found "guilty but insane," and sent to Broadmoor. The Master of the Rolls was not hit on the discharge of the pistol, which contained no bullet but only (as Dodwell himself told me) a wad made up of a marginal strip from the *Morning Advertiser*, upon which he had written "Unfaithfulness to the true interests of the Crown of England," Dodwell's real object being to secure a criminal trial at which he might have an opportunity of making his grievances public. On June 6th, 1882, Dodwell made a murderous assault upon Dr. Orange, and as the mental schemings of such a mind as his are ever of interest I quote the victim's own account of the circumstances:

> A determined assault was made upon me, on June 6th, by one of the inmates, who, whilst I was occupied in reading some letters with respect to which he had requested my advice, suddenly, and without warning, struck me a violent blow on the head with a heavy stone slung in a handkerchief. The perpetrator of this act was the same man who fired at the Master of the Rolls four years ago; and the act was prompted by a precisely similar motive on both occasions—namely, in order to attract public attention to a conspiracy of which he believed himself the victim. He afterwards stated that he had made up his mind to commit an act that would lead to a coroner's inquest, more than a year ago, but that no sufficiently favourable occasion had then presented itself. Being, however, cool and determined and cunning, although labouring under a dangerous delusion, he was, like insane persons of this description, able to exercise sufficient self-control to wait until the circumstances were such as he deemed favourable to the full accomplishment of the object that he had in view.

It so happened that some two months previously Dr. Orange had, at the instance of the Treasury, given evidence of insanity at the trial of Roderick Maclean who fired a pistol at Queen Victoria; and in the course of his examination he stated, as a matter of illustration, that some points in the case resembled those in the case of "the man who shot at the Master of the Rolls. He maintains he is right and always has maintained he is right. He knew beforehand that he would have to go through a criminal court, *but he is insane and irresponsible.*" This statement was read by Dodwell in the newspaper account of the trial, and it proved to be the factor in his mind which determined him to wait no longer but to commit the assault on Dr. Orange at the earliest opportunity, which he himself created by asking the superintendent to advise him on a family matter of some importance.

Although he had leave of absence for a year, Orange never recovered from the effects of this assault; and the strain of the work made it a great struggle for him to keep on in his weakened condition, because he felt that his confidence in his own powers had been reduced. This to a man whose leading mental attribute had been decision in action was fatal to his *amour propre*, and led to his retirement on pension four years after the date of the injury. He did no active official work after this, except that after prolonged rest he became a member of the Council of Supervision of Broadmoor from 1892 till 1904, and was usefully employed. On his retirement Queen Victoria conferred on him the honour of the Companionship of the Bath.

In its issue of June 5th, 1886, the BRITISH MEDICAL JOURNAL referred to Dr. Orange in the following terms:

> His eminently successful administration of this post has been testified to over and over again in our columns and elsewhere; and when we recollect the dangerous and intractable character of the lunatics sent to Broadmoor its superintendent cannot be said to hold an office which is either a sinecure or free from constant risks of all sorts. Dr. Orange's management of Broadmoor has been characterized by a judicious firmness, combined with a most kindly consideration for the interests of the unfortunate patients who came under his care. He will be greatly missed by them; while as an evidence of the estimation in which he was held by the officers and staff of the establishment, he was, last Monday, presented by them with a handsome and substantial silver salver and many expressions of regret at his departure and cordial good wishes for his future. When referred to, as he frequently was, in cases of capital offences where the mental condition of the offender came into question, his investigations were thorough, his decisions clear and sound; and his recommendations were, we believe, invariably carried out, and never failed to be satisfactory not only to the authorities but also to the general public, in whose estimation he deservedly stood high.

And the *Lancet* of the same date congratulates Dr. Orange upon the successful results of his labours in the public service and of his most efficient administration of a grave and responsible public trust. Referring to the "trying duties devolving upon him as one of the advisers of the Home Office authorities in cases where capital crimes had been committed, and where the question of insanity arose," the *Lancet* went on to say that

> The general public have to be especially grateful to Dr. Orange, for, with an exceptional experience on the subject, his scientific penetration, his sound judgement, and his shrewd common sense never failed to secure universal approval for his decisions on these momentous issues.

After much that was in praise of Dr. Orange, the *Journal of Mental Science* for July, 1886, thus speaks:

> After hard and anxious work, Dr. Orange succeeded in reducing the complicated details of the asylum administration and of questions which thereafter arose as to the best methods of dealing with the criminal lunatics of the country, to a complete system, such as has earned the unqualified praise of visitors from all parts of the world.

Dr. Orange's contributions to the medical press contained expressions of opinion which were always practical and well thought out. His article on "Criminal Responsibility," in *Tuke's Dictionary of Psychological Medicine*, deals with the rules by which Courts have been and are guided, and the cases cited by him are useful for reference. He concludes by saying: "It must be remembered that in a criminal court the term responsibility means liability to legal punishment." He adds: "In a general sense, a person may be said to be insane so as not to be liable to legal punishment: (1) When his mental condition is such as to render him unfit for penal discipline; or (2) when, in the words of Lord Blackburn, disease of the mind was the cause of the crime; or when, in the words of Mr. Justice Stephen, the accused 'was deprived by disease affecting the mind of the power of passing a rational judgement on the moral character of the act which he meant to do.'" In an address at Reading in 1877, on "The present relation of insanity to the criminal law of England," Dr. Orange made the following remark, which ought to be borne in mind: "Moral depravity must be carefully distinguished from actual mental disease. The term 'moral insanity' is, I think, better avoided in a criminal court of law" (BRITISH MEDICAL JOURNAL, October 20th, 1877).

Of an attractive personality, Orange was essentially the official, and he devoted himself unsparingly to the work of his life, for which he was well fitted by a good physique, a sound judgement, an equable temperament, and a strong will. He had many friends, and was himself a staunch friend. He did not, however, readily make friends; his mind was formal in its activities, and a certain mannerism, referable, perchance, to his Huguenot (French) descent, together with a searching but not unkindly look from his clear eye, rather gave strangers the impression that they were "psychologized." In this way he no doubt did himself less than justice, for he was ever sympathetic with those in trouble, and ready to help when appealed to. His was a fine intellect which led him to sound decisions by a process of rapid intuition; but he was occasionally apt to spoil the effect by harking back and entering into minute details which occupied time, but which had the effect of satisfying him, as it were, that he had not failed to form a correct judgement at first.

He read much in scientific and general literature, was well informed, and could hold his own in controversy. He took little or no interest in outdoor games. He was keen on the asylum farming operations and fond of riding exercise on the Bagshot Heath or in the Swinley Forest, while nothing gave him more thorough enjoyment than a day with Garth's hounds. He could play a good rubber of whist, and was musical and capable of taking his part in glees and light operettas.

Orange had as a lifelong friend Dr. Charlton Bastian; and of close friends he had also Henry Weston Eve and Osmund Airy, and other masters at Wellington College, which was in the immediate neighbourhood. In this relation I must not omit to mention his good friend the late Sir Warwick Morshead, Bt., the chairman of the Council of Supervision, who was Orange's steadfast collaborator in all that was done for the good of Broadmoor and its inmates.

Two years after he went to Broadmoor Dr. Orange married Miss Florence Elizabeth Hart, a lady of much charm and attractiveness. He had, I am told, fallen in

love with her when she was a child, and married her when she was 17. They were an ideally happy and domesticated couple, given to hospitality and the cheerful entertainment of friends and neighbours. She died three years before him, and they both lie at rest in the cemetery at Bexhill. They had five children—four daughters and one son—all well gifted with intellectuality and working capacity. The son, Mr. Hugh W. Orange, C.B., C.I.E., is the Accountant-General of the Board of Education.

In conclusion, I am glad to have been afforded the opportunity of writing this memoir of a courteous gentleman, a high-minded public official, and, especially to me personally, an esteemed friend.

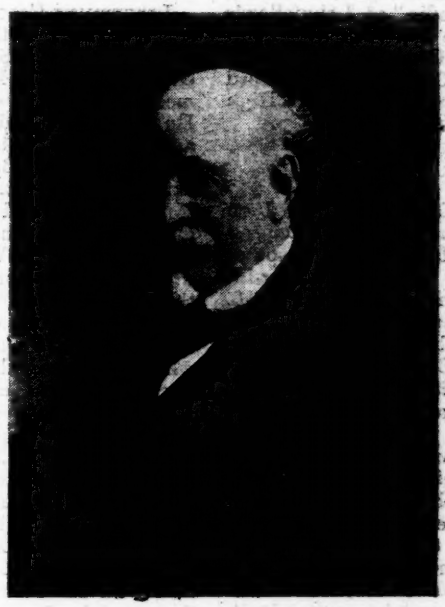
DAV. NICOLSON.

## JOHN MOORHEAD, M.A., M.D., M.R.C.S., J.P.,

LATE PHYSICIAN TO THE WEYMOUTH ROYAL HOSPITAL.

IT is with regret we record the death of Dr. Moorhead, of Weymouth, from cerebral haemorrhage on December 29th, in his eighty-second year.

Dr. Moorhead was the senior member of the Dorset and West Hants Branch of the British Medical Association. He was a most ardent supporter of the Association, regarding it as the only organized force wherewith to shield the honour and interests of the medical profession.



DR. JOHN MOORHEAD.

*Photograph by*] [*Maull and Fox, London.*

He was an Ulsterman, and was born in 1835; he was the son of Mr. Thomas Moorhead, of Killykeragh, County Monaghan, and was one of five brothers, all men of high scholastic attainments. His early arts and medical studies began at Queen's College, Galway, and at the age of 21 he was in possession of the M.A. and M.D. degrees of the Queen's University. During his student career he possessed robust health, was a rapid worker, and had an almost perfect memory. He was the recipient of numerous gold medals and scholarships in science, classics, and medicine. Soon after graduation he studied in Paris under Professors Bouillaud and Nélaton, and afterwards spent a considerable period at Edinburgh University, where he came under the influence of Sir James Simpson, Professors Christison, Syme, and Laycock. Dr. Moorhead placed a very high value on his Edinburgh studies and opportunities. On leaving Edinburgh he settled down to practice in Weymouth. He soon became physician to the Royal Infirmary there, an appointment he held for forty-three years. He was physician also to the Weymouth Sanatorium for Women, and for many years was the esteemed colleague of the founder, Dr. W. Johnson Smith.

Dr. Moorhead had the rare privilege of attaining his fiftieth year of active professional life. The event was celebrated at Weymouth by a public meeting at which the Mayor presided, and presented him with a valuable silver service in commemoration of his public services as citizen and physician.

Dr. Moorhead rarely missed the meetings of the Dorset and West Hants Branch of the British Medical Association, and was its president in 1903. He attended the meeting of the Branch last summer, and those of us who were present well remember his genial presence, his fluency of speech, and the manifest happiness, always at its height as he found himself amongst the members of the profession he loved.

In his younger days he contributed freely to medical literature; two papers, on the physiology of hearing, and on oesophagismus, appeared in the *Lancet*, and he recorded a unique case of fatal haematemesis in the *Transactions of the Pathological Society*.

Dr. Moorhead had many interests outside medicine. His historical knowledge was profound, and he was familiar with the whole circle of the natural sciences. He travelled much, and was a member of several learned societies. He was J.P. for Weymouth, and for thirty years he was a member of the Diocesan Synod of Salisbury. He was a churchman of the Evangelical school and a strong Protestant by conviction and inheritance. His declining years were spent in Bournemouth, where he took a keen interest in the Natural Science Society.

There are but few men living whose intimate knowledge of Dr. Moorhead enables them to measure his mental stature. The writer of this appreciation has been for many years his intimate friend and has often been amazed at the width and accuracy of his learning, for up to the end this extended over most of the fields of human knowledge—classics, philosophy, theology, European history, and the natural sciences. Always adding to his store of learning, it gave him sincere pleasure to find the open ear of the seeker after knowledge.

His end came precisely as he told the writer it would—by cerebral haemorrhage. He passed away without pain, conscious of a life well spent and profoundly hopeful of immortality.

The funeral, which took place at Bournemouth Cemetery, was attended by Sir Daniel Morris and other representatives of the Bournemouth Natural Science Society, by Dr. W. Johnson Smyth, and many others.

JOHN GRIFFITH OWEN of Kingston-on-Thames, who died on December 6th, 1916, was born on February 10th, 1862, near Ammanford, Carmarthen, where his father had a small woollen mill. He entered as a medical student at Charing Cross Hospital in 1886. For a time he acted as unqualified assistant to Dr. Shirtliff, who had a large, mainly working class, practice at Kingston-on-Thames, but in 1892 Owen was able to return to London, and took the diploma of M.R.C.S. in 1894. He returned to Kingston, and became a partner in the then firm of Goodman, Daldy, and Owen in 1899. He was a man of great kindness of heart, and was a favourite both with his patients and with his associates at the Kingston Club and later the Surbiton Golf Club. Probably few men have left such a record for hard and unremitting work and play combined, but about two years ago influenza and resulting pneumonia caused a rather acute emphysema and consequent heart strain. His recovery was never complete, and the demands of war time made him refuse to take a complete rest, but he was able to take a place on the Surrey Panel Medical Committee. He died of heart failure after about a week of acute illness following a chill. In Kingston, where he had spent almost the whole of his working life, he will be much missed, especially among the working classes, to whom he was unfailingly kind and sympathetic. He leaves a widow and three children.

DR. J. WHITFIELD BLANDFORD died at his residence at Norton, Stockton-on-Tees, on December 23rd, at the age of 69. He received his medical education at the Newcastle-on-Tyne school of medicine, and took the diploma of M.R.C.S.Eng. in 1868, and that of L.R.C.P.Edin. in the following year. He had practised for the greater part of his life at Stockton, where he was very highly esteemed both as a doctor and as a man. He was honorary surgeon to the Stockton Hospital, medical officer of health for the Stockton Rural District, and J.P. for the county of Durham. He had also served the offices of president of the North of England Branch of the British Medical Association and of the Stockton Medical Association. He was an active officer of the Volunteer Force, and transferred to the Territorial Force when it was constituted. He attained

to the rank of Colonel A.M.S., and received the Volunteer Decoration. At the time of his death he was honorary colonel of the Northumberland Division of the Royal Army Medical Corps, and was a military member of the Territorial Association for the county of Durham. During his active service he had held the position of assistant director of medical services, and had received the distinction of being appointed honorary physician to the King. The funeral, which took place on December 26th at Norton-on-Tees, was attended by a large gathering representative of public life of the county and Stockton district.

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Sir Frederick William Borden, Canadian Minister of Militia Defence from 1906 to 1911, who died at Canning, Nova Scotia, on January 6th in his seventieth year, was educated for the medical profession, and took the degree of M.D. at Harvard. He began practice as a doctor in 1868, and was appointed assistant surgeon to the 68th Battalion of the King's County Regiment of Militia in 1869. He rose to the rank of surgeon lieutenant-colonel and honorary colonel in the Canadian A.M.C. In 1911 he was appointed honorary surgeon-general in the imperial army. He was first elected a member of the Canadian House of Commons in 1874, and sat as representative of King's County, Nova Scotia, the "Acadie" of Longfellow's *Evangeline*, till 1911. He held the honorary degrees of D.C.L. and LL.D., and was a Privy Councillor of Canada. He was created K.C.M.G. in 1902. On the death of Lord Strathcona he was offered, but declined, the office of High Commissioner for Canada in this country.

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Richard Lowther, M.D.Edin., M.R.C.S.Eng., died on December 2nd, 1916, at Grange-over-Sands, after an operation for strangulated hernia. He was the only son of the late Rev. Richard Lowther, vicar of Muker-in-Swaledale, Yorkshire, and was born on May 8th, 1846. He was educated at Lancaster Grammar School and at Edinburgh University, where he had a distinguished career and graduated M.B., C.M. in 1868 and M.D. in 1870; he took the diploma of M.R.C.S. in 1868, and after a period at the Middlesex Hospital and as house-surgeon at Lancaster Old Infirmary, he started practice at Cartmel, Lancashire, where he remained for twelve years; he then settled in the neighbouring town of Grange-over-Sands, where he worked for another thirty-three years. He had a very extensive practice, and when the news of his sudden death came to the district there was universal grief, for he had made himself almost indispensable to several generations of patients, and on account of his quiet charm and kindliness was beloved by one and all. He was working hard up to the very morning of the operation. He took a great interest in the affairs of the small town in which he had worked for so long, and was a member of the urban council almost continuously from 1895 to the time of his death. Being a great lover of gardening, he was able to help very largely in the laying out of the town parks and pleasure grounds, giving valuable advice concerning the purchase of trees and plants. His own garden was a perpetual delight to him, and there he spent much of his spare time amongst his fruit trees and choice pines. As a young man, and until comparatively recently, one of his great pleasures was fishing; but lately it had never been possible to get the necessary holiday at suitable times. For over thirty years he carried out his practice with horses, and his coachman, Thomas Goode, was known to most people as "Dr. Goode." He was a great character, a servant of the old school, now living in retirement, for the coming of motor cars was too much for men such as he. For the past five or six years Dr. Lowther was assisted by his only son, Dr. Richard Charles Lowther, who also underwent his medical training at Edinburgh University. The funeral on December 5th was very fully attended, the members of the council preceding the coffin into the church. Afterwards, in brilliant sunshine, the procession wound its way to the beautiful cemetery lying 500 feet above the town, in a hollow of the fells, where another very large gathering of sorrowing friends, many of them the grandchildren of patients whom he had attended in his early years in the district, paid their last respects to "the old doctor."

Surgeon-General Thomas Barkly Beatty, Bombay Medical Service (retired), died at his residence, Monkstown, Ireland, in the last days of November, aged 89. He was born on November 4th, 1827, the youngest son of the Rev. John Beatty, Rector of Waringstown, near Lurgan, and was a cousin of General John Nicholson. He was educated at Trinity College, Dublin, and took the diploma of L.R.C.S.I. in 1850; subsequently he took the F.R.C.S.I. and graduated M.D. Trinity College in 1861. Entering the I.M.S. as assistant surgeon on May 20th, 1851, he became surgeon on June 15th, 1864, surgeon-major on May 20th, 1871, deputy surgeon-general on October 21st, 1876, and surgeon-general with the Government of Bombay on April 1st, 1880. He retired on March 31st, 1885. He served as principal medical officer of the expeditionary force sent from India to Malta by Lord Beaconsfield in 1878 during the Russo-Turkish war. Surgeon-General Beatty was twice married. He leaves a widow, a daughter, and four sons who are serving in the war. Since the death of the centenarian, Surgeon-Major H. B. Hinton, on May 14th last, he had been the senior officer on the retired list of the I.M.S. That honour now falls to Surgeon-General Sir Alexander Christison, Bt., who was some five months his junior.

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Lieutenant-Colonel C. M. Thompson, I.M.S., who died on December 24th, was the son of the late Henry Thompson, F.R.C.S.I., of Omagh. Colonel Thompson was educated at the Royal School, Raphoe, and took his medical and surgical degrees at the University of Dublin. He entered the Indian Medical Service in October, 1880, and was allocated to Madras, but was shortly afterwards nominated to the Bombay Mint. He served in the Tirah expedition, and was present at the actions of Chargu Kotal, Dargai, and of the Samagha Pass. He took part in the operations in the Waran Valley in November, 1897, and in the Bara Valley in December of the same year. After the conclusion of the campaign he was thanked for the excellent work done by the field hospital, and received the medal and two clasps. Subsequently he was appointed staff surgeon at Ootacamund, and later at Secunderabad, where he worked for nine years, and successfully reorganized the civil hospital there. In 1909 Colonel Thompson was appointed senior medical officer in charge of the General Hospital, Madras, and acted also as Professor of Surgery in the Madras University until 1911. During the last twelve years of his service he was in bad health, owing partly to the results of a motor accident. After his retirement he served in the P. and O. Company for a couple of years. On the outbreak of war he was appointed to the convalescent home for Indian soldiers at Barton-on-Sea, near Bournemouth. Last March he was compelled by failing health to relinquish this appointment, and had since lived with his brother, Dr. E. C. Thompson, of Omagh, until severe illness necessitated his removal to Tyrone County Hospital, where his death occurred. The funeral took place at Clanabogan with military honours.

# The Services.

## EXCHANGES.

Officer serving with Field Ambulance in Egypt wishes to exchange with officer at present at home. Hospital if possible. Lieutenant or Captain. Address, No. 100, British Medical Journal Office, 429, Strand, W.C.

Captain R.A.M.C.(T.), M.O. Battalion R.E., one year in France, desires exchange to Ambulance Train (in England preferred).—Address, No. 493, British Medical Journal Office, 429, Strand, W.C.

Medical officer on hospital ship wishes to exchange with medical officer over 45 in a military hospital in England. State duties.—Address, No. 200, British Medical Journal Office, 429, Strand, W.C.

Captain, R.A.M.C.(T.), serving with Field Ambulance, Eastern Command, with experience of civil and military hygiene, and as lecturer, desires exchange with sanitary officer abroad. Has D.P.H. Camb.—Address, No. 199, British Medical Journal Office, 429, Strand, W.C.

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The anniversary of the opening of the first station in Russia for the manufacture of iodine from the seaweed of the Black Sea was celebrated recently at Yecaterinoslaw. The amount produced—360 lb.—was used for the treatment of wounded soldiers. Iodoform and iodides have also been made, and the quality of the products has more than fulfilled the requirements of the military pharmacopoeia.

# Medico-Legal.

## OPINION OF MEDICAL ASSESSOR.

AN example of a somewhat "thin" case under the Workmen's Compensation Act came before the First Division of the Scottish Court of Session on December 19th, 1916, in the form of a case stated by the Sheriff Substitute of Glasgow. The respondent was the widow of Joseph Connelly, who had been employed as a labourer by Messrs. Alexander Cross and Sons, Limited. On January 13th, 1916, a slate had fallen from a building in the appellants' works on to Connelly's foot. He attended work on the two following days, but on the third was brought home unwell, and the foot was then observed to be swollen. No external wound was, however, visible. After being treated for several days at home Connelly was removed to an infirmary, where he died on January 23rd from blood poisoning. The Sheriff Substitute, fortified by the opinion of a medical assessor which he embodied in his statement of facts, held that Connelly's death was caused by an accident which arose out of and in the course of his employment, and awarded £250 compensation.

The Court of Session held that the Sheriff Substitute had improperly included the opinion of his medical assessor in the facts stated by him to that Court, but that there was, nevertheless, evidence on which he could properly find that the blood poisoning and resulting death was caused by the accident to the foot.

## A CASE OF LEPROSY.

AN appeal was recently heard in the Court of Appeal, composed of Lords Justices Swinfen Eady and Bankes and Mr. Justice Lawrence, from the decision of Mr. Justice Darling, in the King's Bench Division, in the case of Humphreys *v.* Miller and others. The facts, as already reported in the issue of this JOURNAL, dated June 10th, 1916, were shortly these. The plaintiff was a lodging-house keeper in Bayswater. The defendant Miller was the daughter of a gentleman who was afflicted with leprosy. Father and daughter took rooms from the plaintiff, and shortly after they took up their residence Mr. Miller was attended by a Dr. Harbord, by whom he continued to be attended until his death, and who was also a defendant to the action. On the occasion of one of Dr. Harbord's early visits the plaintiff's manageress inquired of the doctor whether Mr. Miller was suffering from any complaint from which there might be any risk of contagion or infection. The doctor had replied that the risk was "practically *nil*"; he did not tell her the nature of Mr. Miller's complaint, and, indeed, Mr. Miller's daughter had no more than a suspicion of it. Finally, Mr. Miller died, and the plaintiff, becoming aware for the first time that he had suffered from leprosy, was put to expense in connexion with the disinfection of the rooms which had been occupied by the patient, and brought his action for conspiracy and fraud.

In the court below the judge left questions to the jury, which, with the jury's answers, were as follows:

1. Was Mr. Miller, when he took the rooms, liable to infect persons or the furniture with leprosy, and did Mr. Miller or Miss Miller know this?—Yes.
2. Is leprosy infectious or contagious so as to be, in England, communicable from the leper to another?—Yes.
3. Did Miss Miller and Dr. Harbord fraudulently misrepresent that Mr. Miller was a fit and proper person to occupy the plaintiff's rooms?—Yes.
4. Did Miss Miller and Dr. Harbord conceal from the plaintiff that Mr. Miller was a leper, which made him unfit to occupy the lodgings?—Yes.
5. Did Dr. Harbord, acting as agent for Miss Miller and Mr. Miller, state to Mrs. Humphreys that Mr. Miller was not suffering from any infectious or contagious disease?—Yes.
6. Were these statements untrue to the knowledge of Mr. Miller, Miss Miller, and Dr. Harbord?—Yes.
7. Did Mr. Miller, Miss Miller, and Dr. Harbord conspire to conceal the state of Mr. Miller from the plaintiff, and make false statements to him for that purpose?—Yes.
8. Damages?—£250.

Upon these findings, Mr. Justice Darling, after hearing legal argument, gave judgement for the defendants, and from this the plaintiff appealed.

Lord Justice Swinfen Eady, in giving judgement, said that the first question was as to whether a person taking a furnished house or apartments gave by implication of law any warranty that he was not suffering from any infectious or contagious disease. There was no authority in law for that proposition, although a person letting apartments did warrant by implication that the apartments were reasonably fit for occupation. As regards the alleged concealment and misrepresentation, he pointed out that there was no evidence to support the jury's finding that Miss Miller was aware, when she took the rooms, that her father was suffering from leprosy, or that he was suffering from any contagious or infectious disease. Then, as to Dr. Harbord, he did not see the patient until he had been in the rooms about a fortnight. The doctor's view had been that in England the risk of infection from leprosy was infinitesimal. That opinion he had quite honestly expressed when speaking to the plaintiff's manageress on the subject. There was nothing to support on the evidence the jury's finding against the doctor.

Lord Justice Bankes, in giving judgement to the same effect, said: "I see no evidence whatever on which it can be suggested as against this medical man that he did not honestly believe that, practically speaking, there was no danger of infection or contagion from this particular disease. Then, when he is asked—and, of course, he was placed in a very difficult position towards his patient and towards this good lady when she put to him the direct question whether it was an infectious disease—he was not obliged to answer, and all he was obliged to do, if he did answer, was to give what his honest belief was."

Mr. Justice Lawrence agreed with the above, and the plaintiff's appeal was accordingly dismissed, with costs.

# Universities and Colleges.

## CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examination indicated:

FINAL PROFESSIONAL.—Elizabeth Budd, E. C. H. Ewart, W. O'C. Hunt, G. W. Jackson, D. C. Kelleher, J. McDonagh, J. T. McDonnell, E. T. McElligott, J. McGuire, P. O'Connell, M. F. Murphy.

# Medical News.

DR. W. AWUNOR-RENNER of Freetown, Sierra Leone, was among the mayors elected on November 9th, 1916.

DR. H. FIELDEN BRIGGS has been elected direct dental representative on the Transvaal Medical Council as from January 1st, 1917.

THE Chelsea Hospital for Women has received from the trustees of the Zunz Bequest £5,000, being the balance of £10,000 promised by the trustees towards the rebuilding of the hospital.

A SUPPLEMENT to the *London Gazette*, issued on January 10th, contains a list of awards for gallantry in the field. The list includes the names of twelve medical officers who have received the Military Cross, which will be printed in our next issue, together with particulars of the services for which the awards have been granted.

IT is reported from Washington, under date December 2nd, 1916, that a resolution has been drafted for immediate presentation to Congress, calling for an appropriation of 250,000 dollars (£50,000) to be expended by the United States Public Health Service on an intensive study of poliomyelitis.

A MEETING of the British Hospitals Association will be held at St. Bartholomew's Hospital on Friday, January 26th, when Dr. W. J. Haworth, M.O.H. for the City of London, will read a paper on the treatment and control of venereal diseases, with special reference to the voluntary hospitals. The chair will be taken by Lord Sandhurst at 3.30 p.m.

ON December 19th, 1916, the Paris Académie de Médecine passed a resolution proposed by M. Chantemesse, expressing anxiety as to the fate of Greek doctors, former pupils of the French medical faculties, who have been imprisoned during the recent disturbances at Athens on account of their Francophile sympathies, and urging the French Government to take measures for their protection.

AT the request of Sir Edward Ward, Director-General of Voluntary Associations, Mr. John Penoyre is appealing for mufflers, which have a short life, as well as for sweaters for men on active service. The muffler should measure 58 in. by 10 in. and be made on two No. 7 needles, taking 10 oz. of fairly thick drab or khaki wool. The sweater pattern can be obtained on application to him at 8, King's Bench Walk, Inner Temple, E.C., and the finished articles should be sent either to the Voluntary Associations' depôts throughout the country or to the D.G.V.O.'s depôt at 45, Horseferry Road, S.W.

WE learn from *Nature* that the secretary of the U.S.A. Department of Agriculture has decided to erect on the coast of Southern California a Government plant for the production of potash from kelp. It is the intention not only to produce potash at the minimum cost, but also to conserve nitrogen, iodine, and other by-products. The kelp will first be dried in a series of rotary driers, and will then be distilled in a moderate coke-oven in such a way as to prevent loss of the by-products mentioned. The potash salts will be dissolved with water out of the resulting charcoal, which may afterwards be used as fuel, as may also the combustible gas obtained by the distillation. The experts consulted believe that by such economical methods the process can be made to pay even in times when the price of potash is at its ordinary level.

A COURSE of lectures on public health problems under war and after war conditions has been arranged by Professor E. W. Hope of Liverpool, and Dr. T. N. Kelynack, for the Royal Institute of Public Health, and will be given in the lecture hall of the Institute, 37, Russell Square, London, W.C., on Wednesdays in January, February, and March, at 4 p.m. on each day. There is no fee for the course, and full particulars can be obtained on application to the secretary of the Institute. The first lecture, on the principles of organization and administration in child welfare work, will be given on Wednesday next by Dr. Janet Lane-Claypon. The chair will be taken by Sir Robert Morant, and among the speakers will be Lieut.-General Sir Robert Baden-Powell, and Mr. F. J. Willis, assistant secretary, Local Government Board. The second lecture, on the prevention and arrest of venereal disease in women, will be given by Dr. Mary Scharlieb, on January 24th, when Dr. Newsholme will be in the chair; and the third lecture, on the prevention and arrest of venereal disease in men, on January 31st, by Dr. C. J. Macalister of Liverpool, when Lord Sydenham, late chairman of the Royal Commission on Venereal Diseases, will be in the chair.

# Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

THE telegraphic addresses of the BRITISH MEDICAL ASSOCIATION and JOURNAL are: (1) EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard. (2) FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard. (3) MEDICAL SECRETARY, *Mediocra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

## LETTERS, NOTES, ETC.

### GARLIC IN WHOOPING-COUGH.

DR. EDWARD KNIGHT (Gravesend) writes: It is curious to note that more than a century ago garlic was commonly administered through the skin of the soles of the feet as a cure for whooping-cough. Thus, in Buchan's *Domestic Medicine*, 1788, it is stated, "The garlic ointment is a well-known remedy in North Britain for the chin-cough. It is made by beating in a mortar garlic with an equal quantity of hog's lard. With this the soles of the feet may be rubbed twice or thrice a day; but the best method is to spread it upon a rag, and apply it in the form of plaster. It should be renewed every night and morning at least, as the garlic soon loses its virtue. This is an exceeding good medicine both in the chin-cough and in most other coughs of an obstinate nature." Now, apparently, garlic is not so much used in the treatment of whooping-cough (or chin-cough) as in times past. A chemist, however, tells me that he usually keeps some syrup of garlic in stock, as his customers now and then require it as an internal remedy for the complaint.

### TWO PICTURES OF MALARIA.

DR. J. BEARD (Edinburgh) writes: "Although malaria has still been the prevailing disease, yet I feel certain that these careful precautionary measures have been greatly instrumental in lessening its intensity. The move to the valley of the Struma in June tested all the preparations made, and severely tried the medical resources. The area occupied was found to be highly malarious."—General Milne's dispatch on the operations of the British army in Salonica. *The Times*, December 7th, 1916.

"The 'Prevision,' to use Pasteur's word, of the mode of treating scientifically, not to add easily, and of curing tuberculosis and relapse malaria. Clinically, the truth of these forecasts has been established abundantly by Dr. W. Baetzner (tuberculosis) and by an officer of the Royal Army Medical Corps in Burma (malaria). As over one million persons die of malaria annually in India alone, and as it has been found that even the worst relapse cases of malignant malaria are cured by but one to at most three injections of *genuine* trypsin and amylopsin, and as the treatment, besides being highly efficacious, is very cheap, it is perhaps not necessary to dilate upon the importance of this, almost my latest, work."—Abstracted from a pamphlet by the writer, dated March 26th, 1915.

Nor, be it added, is it necessary to dilate upon the fact, that all the various attempts made to bring these finds to the notice of the War Office have resulted solely in the receipt of two official replies upon "Form 1," to the effect, that the matter "shall receive attention."

### ABDOMINAL SYMPTOMS PRODUCED BY MEDICINAL DOSES OF OPIUM.

DR. H. P. WINSBURY WHITE (House-Surgeon, Royal Infirmary, Edinburgh) writes: Four cases of severe abdominal pains following large medicinal doses of opium or drugs containing its derivatives have recently come under my observation. In each instance the symptoms were such as might easily lead the observer to believe at first sight that he was confronted with an abdominal condition requiring surgical interference.

*Case 1* was a man, aged 25, suffering from toothache, who took 1 grain of morphine hydrochloride by the mouth. Two hours after the administration he woke with violent abdominal pains coming on in spasms. He was sent to hospital as possibly a case of perforated duodenal ulcer.

*Case 2* was a man, aged 37, suffering from influenza. During the course of an evening he took five tablets of 5 grains each of Dover's powder, which contains 10 per cent. of opium. The patient woke about two hours after the last dose with violent abdominal pain.

*Case 3*, a man, aged 23, admitted to hospital suffering from an injury to the lower part of one thigh; he complained of great pain, and was given a hypodermic injection of heroin, grain ¼. A quarter of an hour afterwards he began to cry out with intense pain in the upper part of the abdomen. He was apparently suffering very much, as he began to writhe about, forgetting for the time being the injury to his thigh. He continued thus for half an hour, when he was given another dose of heroin, grain ¼, which apparently afforded no relief, and the dose was repeated; after this he became quiet, and ceased to complain.

*Case 4*, a man aged 24, suffering from nasal catarrh and bronchitis, who took 2 oz. of Brompton mixture, which contains liquor morphinae hydrochlor. Between two and three hours later he was awakened by severe cramp-like pains in the region of the stomach.

These cases resembled each other very closely in their symptoms. Spasms of gripping pain in the epigastric and left hypochondriac regions, coming on at intervals of a few minutes, lasting about a quarter of an hour, and so severe as to double the patient up, and cause him to groan. The symptoms in the first two cases lasted for about an hour, and then passed off completely without treatment other than hot bottles. The third case at the end of an hour was also free from pain, but by that time he had received in all ½ grain of heroin hypodermically, and it is likely that the last injection placed him so deeply under the influence of the drug as to relieve him of the consciousness of pain. Case 4 suffered for about half an hour, when he was given $\frac{1}{150}$ grain of atropine hypodermically, after which he got almost immediate relief. In none of the cases was there any vomiting or nausea. The pupils in each instance indicated by their contraction that probably opium had been taken, and on inspecting the abdominal wall the upper part was distinctly rigid and respirations were short.

In one case both recti stood out very prominently. The patients resented palpation of the abdomen, as it appeared to tend to start the spasms. On inquiring into the histories of the individual cases, none of them had had previously any condition resembling that described, and subsequent to the attacks passing off all seemed perfectly well.

It would be interesting to know if other practitioners have had cases of this kind, as these seem to demonstrate an action of the drug which is not generally recognized. Inquiry amongst my medical friends reveals only one instance of acquaintance with this peculiarity of the action of opium, and in this case a well-known surgeon had a personal experience of these unpleasant symptoms. Opium causes convulsions in cats and amphibians, and a veterinary friend informs me that a severe colic is known on occasion to follow in horses after an administration of morphine.

*** In the late Sir Lauder Brunton's *Textbook of Pharmacology, Therapeutics, and Materia Medica* the fact that opium in certain conditions stimulates intestinal peristalsis is noted. He seems to have used it occasionally, in very small doses, one drop or even half a drop of tincture of opium, in certain forms of constipation—for example, that caused reflexly by ovarian irritation.


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